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ARTICLE I.—*Transactions of the Chicago Society of Physicians and Surgeons, at the Meeting June 9th, 1873.* Reported by P. S. HAYES, M.D.

Paper on the Physiological Relations of Alcohol, by WALTER HAY, M.D. Read by invitation.

Cases, reported by W. C. LYMAN, M.D.

GENTLEMEN:—The present age has been termed that of skepticism. Within the domain of the physical sciences, skepticism and investigation are the parents of knowledge. He who doubts has awakened to the possibility of progress; he who blindly accepts dogmata sleeps under the tomb of tradition.

An occasional review of the principles of our professional faith may not be altogether unprofitable, if it results in nothing more than in the exercise of greater circumspection in their adoption and establishment.

The iconoclast, who tears down from their niches the idols of a false faith, may be the prophet of a new avatar.

The confusion, apparent in the minds of moralists, political

economists, and physicians, regarding the influence of alcohol upon the human system, suggests the vagueness and uncertainty of the data upon which their opinions have been based, and indicates the possibility of deducing sounder conclusions, by elucidating its true physiological relations.

We are told by therapeutical authorities, that alcohol is a stimulant; lexicographers tell us that a stimulant in medicine is an article which produces a quickly diffused and transient increase of the vital energy and strength of the heart and arteries.

The dogma, that alcohol is stimulant, has been long considered a principle in therapeutics; let us examine upon what physiological foundations the principle rests; let us investigate its three-fold relations to the three essentially vital physiological functions, circulation, respiration, innervation.

The effects of alcohol upon the circulatory system are first made visible by an increased afflux of blood to that portion of the integuments of the face constituting the vascular area supplied by the ultimate ramifications of the ophthalmic artery, indicated by the flush of heightened color upon the cheek. The ophthalmic artery being the first branch of the carotid after its passage through the carotid foramen into the cranial cavity, the condition of its circulation will afford a very fair index of that of the entire encephalic circulatory system. Coincidentally with these changes, occurs acceleration of the heart's action, indicated by increased frequency of the radial pulse. There is at the same time dilatation of the arteries and arterial capillaries, marked in the first case by augmentation in the number of red corpuscles present in the capillaries of the face, and in the second by the enlargement of the radial pulse.

The dilatation of the arteries of the central nervous system is manifested by symptoms to be considered under their appropriate head.

If the exhibition of the drug be continued, the effects just mentioned are intensified, the flush in the face deepens and extends more widely as new vascular areas are involved; the vessels of the conjunctivæ are engorged, and the swollen condition of the veins testifies to the dilatation of both the capillaries and trunks of the venous system likewise; pulsation diminishes in rapidity but not in volume, until the heart's action might even cease.

Upon the respiratory system the drug produces effects no less marked; first, an acceleration both of inspiration and of expiration appears coincidently with the increased rapidity of the heart's action and the dilatation of the capillaries already referred to; notwithstanding which, evidences of imperfect oxydation rapidly accumulate in the deepening color of the countenance and the turgidity of the venous system.

But the effects of alcohol upon the nervous system constitute the most reliable data from which conclusions regarding its true physiological relations may be deduced; while these are indissolubly correlated with the modifications of circulation and respiration already described, they, nevertheless, retain sufficient individuality to admit their identification.

The first of these to which I will direct your attention, is a modification of sensibility, a sense of heat or burning in the stomach and in the face. Whether this be due to a direct modification of sensory innervation, or to an indirect change resulting from the increased amount of oxygen carried to the terminations of the sensory nerves by the red corpuscles of the blood, has not yet been determined. Next, is a diminution, a quasi paralysis, of vasomotor activity, manifested in the dilatation of the arteries already indicated. There is, moreover, impairment of the functional activity of the cerebral hemispheres, indicated by diminution in the energy of the will in dominating and controlling the activity of subordinate ganglia, resulting in insubordination of the emotional centres, and the centres of special sensation, whose impressions become confused, inaccurate and unreliable; the sensory and motor ganglia of the mesocephale respond reluctantly or abnormally to normal impressions, whether centripetal or centrifugal. Common sensation is impaired, muscular motions become irregular and incoördinate, until innervation generally is reduced to its lowest possible expression; the subject, by the abolition successively of the functional energy of the superior ganglia of the nervous system, is reduced gradually, through all the lower phases of animal life, to a merely vegetative existence.

The symptoms induced by alcohol having been considered as much in detail as the limits of this paper will permit, their physiological significance may next be discussed.

The first of these, increased afflux of blood to the arteries and

capillaries, can only occur by dilatation of those vessels (farther shown by increased fullness of the radial pulse), and this, again, by relaxation of their muscular walls; now the calibre of blood vessels is regulated by the amount and degree of nervous irritability, hence dilatation of the calibre of blood vessels is simply another expression for vaso-motor paralysis or quasi paralysis, for withdrawal of nerve force. Hence it appears that the first effect of alcohol upon the circulatory system, with its correlative expression through the nervous system, is *diminished* rather than *increased* vital energy.

But the pulsations of the heart are at the same time increased in number, and this fact constitutes the corner stone of the stimulant theory of alcohol.

This corner stone, however, will crumble under the hammer of physiological criticism. It would certainly be a physiological paradox, that an agent which can induce a condition of diminished vital energy in one portion of the nervous system, should occasion the opposite state in another; modern physiology has explained the paradox by demonstrating the inhibitory action of the pneumogastric nerve upon the heart, and shown that whatever interrupts its influence upon that organ occasions in it increased rapidity of action. This necessitates the admission of reciprocity of action in the heart and arteries, without which these phenomena and their modifications would be inexplicable.

The effects upon the circulation in the face are identical in character with, although of course infinitely less conspicuous than, those induced by section of the cervical sympathetic.

Coincidentally with these again is temporarily increased rapidity of respiration, the accelerated arterial necessarily involves greater rapidity in the venous circulation also, and an increased afflux of blood to the lungs, whose vessels are moreover less able to resist it, the result of which is the necessity for more rapid oxydation through the respiratory surface, evidence of disturbed co-ordination between respiration and circulation, the direct result of partial arrest in the innervation of the pneumogastric nerve, as determined by actual experiment to be temporary acceleration with consecutive retardation of respiratory movements, with engorgement of pulmonary vessels. To these must be added the evidences of diminished exhalation of carbonic acid from the respiratory surface, amounting,

as shown experimentally, to twenty-five per cent., after the ingestion of even a small quantity of alcohol.

But it has been shown that there was a hyperæmic condition, so to speak, of the ophthalmic artery, and inferentially of the brain. Now, hyperæmia of the cortical portion of the hemispheres of the brain is the physiological equivalent of the metaphysical condition which is termed delirium, and this condition is typified in the intellectual aberrations of the alcoholized subject. There are probably very few left who recognize in the incoherent ravings of a maniac any evidences of *increased vital energy*, but rather of energy perverted and degraded.

Or shall we look for such evidence in the disorderly manifestations of emotional activity which has become relatively conspicuous by reason of the degradation of the higher faculties, which in a normal condition regulate and control their energy?

Or, again, do we find it in the more or less complete suspension of functional activity in the organs of special sensation as the medulla oblongata becomes involved in this hyperæmic condition and their nervous centres are successively implicated? The dimmed eye, the deafened ear, the stammering tongue, all indicate paralysis, and to these are added, as the hyperæmia gradually suspends the functional energy of cerebellum and spinal cord, vertigo, anæsthesia, muscular incoördination, and paralysis.

From the first symptom to the last, paralysis is the essential lesion in every phase of acute alcoholism. Whether we consider the dilatation of arteries, the increased blood supply, the escape of the heart from its normal control, diminished volitional energy, disordered intellection, irrepressible emotional activity, diminished special sensibility, suppression of pulmonary exhalation, and glandular secretion, loss of common sensation and of motor power, separately or together, it will be perceived that each one of them points back to its ultimate factor, vaso-motor paralysis, diminished nerve-power.

The facts adduced thus far, although they comprise only the salient points in the subject of the physiological relations of alcohol, and sufficient only to enable me to sketch the bare outlines of its history, will, I think, indicate clearly that, so far from increasing vital energy and strength of the heart and arteries, alcohol

diminishes both, and thus fails to fulfill the definition of a stimulant.

The object of this paper is not to favor a blind and unreasoning prejudice against the use of this drug, either intra- or extra-professionally, but by pointing out its real effects to suggest the conditions in which it may be used most beneficially in the alleviation of the ills of human life, and thus be retained within the category to which it originally belonged, of blessings to humanity, instead of being condemned to that into which physiological blindness has permitted it to be relegated, of the curses.

The question whether the drug be or be not a stimulant, may be said to be simply a war of words, but words are symbols of ideas, and men are governed by symbols rather than by ideas, hence the acceptance of a false symbol involves subordination to its correlative false idea.

A correct appreciation of the true physiological relations of alcohol will result, it is to be hoped, in the substitution of a more strictly scientific therapeutical application of the drug for the almost purely empirical method at present in use by many, even in the front ranks of our profession; will prevent in the future the administration of this drug to relieve chronic engorgement and hypertrophy of the liver by one distinguished practitioner, or to sustain the failing energy of a fatty heart by another.

Much of the demoralization which has resulted from the abuse of this drug extra-professionally, has its source in professional ignorance, and while we are not willing to be held accountable for any considerable share of human misery, we are bound to investigate for ourselves a subject, upon whose correct appreciation by physicians such important issues depend.

Gentlemen, I trust that the shortness of time at my command for reducing these ideas to a presentable shape, and the necessity for condensing their expression within the limits of a brief paper, will be a sufficient apology for the cursory manner in which I have treated a subject which admits of and deserves the utmost elaboration.

Permit me, in closing, to thank you for the honor which you have done me in your invitation, and the courtesy which you have shown me in your kind attention.

After the reading of the paper a general discussion ensued, in which most of the members participated, and in which Dr. Hay made special application of the principles set forth in the paper. After this, Dr. Lyman read a report of the following cases which occurred in his practice. He was induced to present them to the society, more from an idea of their possible novelty than any special lesson that they might teach.

Case 1. Mrs. S., a healthy young woman about 28 years of age; nine years married; had never before supposed herself pregnant; applied to me to attend her in her approaching confinement, in September last, stating that she expected her labor to occur by the middle of October. October came and nothing was heard of the case till near the end of December, when the husband called upon me in a state of anxiety, which may be considered perfectly natural when it is understood that he left home on January 15th, previous, and his wife had written him of her (and his) good fortune, while absent; and he found his wife, on his return, in that interesting state (apparently) that "ladies delight to be, who love their lords."

To quiet his mind, I explained how sometimes a case of the kind went on to a period far beyond the average 280 days, and this was probably one of them. This satisfied him for a time, but shortly he returned, and I fairly thought that the pregnancy must have commenced on his return, June 15, 1872, which would render her labor due March 15, 1873. This date came, and they consented to an examination. I found the abdomen enlarged to the extent of an eight months pregnancy, the prominence being slightly to the left side. There were movements that were to all appearance so like the movements of the fœtus in utero, that they well might deceive both patient and physician, but there was no sound of the fœtal heart. Examination per vaginam showed the womb in nowise enlarged, greatly retroverted, but presenting no evidence of any other disease or disorder. Of extra-uterine pregnancy, ovarian cyst, or solid tumor, there were none. There were only the prominent abdomen and apparent fœtal movements to account for. These have gradually passed away since she has been assured of her true condition. I can only conclude that the profound mental impression that she was to bear a child, had its effect

upon the economy of nature, so as to develop this growth of and produce muscular movements of the abdominal wall, such as might attend real pregnancy.

Case 2. I desire to relate the following case more to put it on record than anything else. Miss A., a young lady 27 years of age, consulted me respecting the propriety of her marrying. Having never menstruated, she suspected all was not right with her. She was of full height, osseous and muscular; system well developed; face, figure and voice essentially feminine.

Examination of the genitals showed a rudimentary development of mons veneris, clitoris, labiæ, and fourchette, the extension formed of the perinæum to the pubic arch being thick, firm and fibrous. Directly below the pubis was a little pocket lined by mucous membrane, about one-third of an inch in diameter, and about three-quarters of an inch in depth, in the upper wall of which the urethra opened with papilla-like eminence—this opening was a rudimentary vagina. For fourteen years she has had a monthly return of the symptoms that ordinarily attend menstruation, and was frequently conscious of sexual desire. Hence I conclude that the ovaries are developed and possibly the uterus, for I made no examination per rectum, (the purpose of the consultation being subserved by the answer that she could not marry), and the external genitals wholly rudimentary.

Case 3. In July, 1872, first saw Wm. Thorpe, stone-cutter, age 29, of slight build, average intelligence, native of Scotland. During the noon hour had laid down beside one of the masses of stone on which he had been at work. It fell over upon him, and he was taken up wholly insensible. An hour later he appeared as follows: A condition of profound shock, with the usual coldness, weak pulse, sighing, respiration and tossing to and fro, right side of the face frightfully bruised, with the eye protruding, and a perpendicular fracture with depression of the outer table, two inches in length, and one inch behind the right ear.

It is useless to detail the treatment, that in four or five days was followed by a return of consciousness, attended by most severe pain in the head, which gradually diminished till at the end of sixty days he was free from it. The right eye remained largely

prominent and the orbit full, the conjunctiva enormously œdematous, and excessively painful.

Two weeks from the reception of the injury, obscure fluctuation was observed over the globe of the eye, and an abscess found at the depth of one inch, from which two ounces of sero-purulent matter were discharged, together with a number of pieces of a white apparently fibrous mass, that proved to be portions of white brain tissue. Exploration of the abscess by Dr. Jackson, (who was present at this time), showed fracture of the superior orbital plate, with depression of its posterior part, pushing the eye permanently forward, and admitting the probe into the cranial cavity. A fracture extending directly backward, horizontally, met the perpendicular fracture behind the ear, traversing the petrous portion of the temporal bone, doubtless in a straight line, and admitting the probe to the depth of four and one-half inches, far enough to meet the perpendicular portion of the fracture.

A slight degree of relief followed the evacuation of the abscess, and a serous discharge continued for about two weeks, when the external opening closed spontaneously. At the end of two months he was discharged, well, and at the end of three months resumed his work, stone-cutting.

The only unpleasant sequel of the case has been the occurrence of convulsions of epileptiform character about a week after he resumed work, induced by stooping at his work in the hot sun. Two drachms of bromide of potassium, given daily for three or four days, apparently controlled this symptom, for since that time (about nine months) it has not returned.

His present condition is noticeable from the fact that the right eye is half an inch in advance of the left; the sight only impaired by the want of accommodation with its fellow, caused by displacement only.

I believe this case to be chiefly remarkable for its recovery after a portion of the brain had been torn off, and expelled from the cranial cavity by occurrence of abscess.

Case 4. Claude McIntosh, age 24, of previous good health, of irregular habits, colored, born of healthy parents, family numerous, all healthy. First felt ill about the 1st of December last. Had occasional attacks of pain in the abdomen, for which, to use his own

words, he "would take two or three drinks," and it readily passed away. This, together with habitual constipation, continued until about February 1, when he, for the first time, gave up his employment upon one of the sleeping car lines. From this time the attacks of severe pain occurred almost daily, often lasting two or three hours, when they would pass away, leaving him entirely comfortable. With these symptoms, a moderate appetite, tongue slightly furred, no febrile action, no undue fullness, tenderness, or hardness of the abdomen. The bowels were easily moved by moderate doses of any laxative medicine. He was several times quite freely purged, with apparent relief, but ultimately the pain always returned. About the middle of March, after a fortnight of comparative quiet he had a return of the pain; it often came on several times daily, and subsided without apparent reason. He was put on the steady use of opium till the pain was controlled, and when entirely quiet, an emulsion of two ounces of castor oil administered. This was followed by the evacuation of two or three dozen scybalæ of the size of a chestnut, and another smaller dose of oil evacuated a solid mass, three inches in length and one and three-fourth inches in diameter. I thought then the trouble was over, but in reality it had just begun. Great pain followed in the left iliac fossa, with extreme local tenderness and moderate swelling, the pulse for the first time became quickened and rose to 140. All the symptoms of acute peritonitis were rapidly developed. Opiates were largely given, beginning with three grains of morphine daily, and rapidly increasing it, as a tolerance of it became established, till he took eight grains of the sulphate daily. Enough was given without regard to quantity to control the pain and reduce the rapidity of cardiac action. When once fully impressed by the sedative influence of the opiate, the symptoms abated, and at the end of two weeks the bowels were again evacuated, moving freely with little pain, the tenderness, tympanitis, and prominence of the left iliac region, being reduced. Two or three dozen more little masses, and one large one, even larger than the other, were voided without the use of any purgative. With abated fever, swelling and pain, and returning appetite and sleep, I thought that the end had come, but the end was not yet. Ten days of apparent convalescence, during which he took daily fluid food, and had stools, were followed by a return of pain and abdominal

tenderness. In anticipation of another large scybala, I ordered an enema of infusion of elm bark; it was followed by a copious stool, containing another mass larger than either voided before, being fully three inches long and two inches thick, shaped not unlike a potato, and quite as hard. Entire relief from pain followed, but in an hour another stool of nearly pure blood followed, then others, and before two hours had elapsed he was dead from hemorrhage.

Autopsy thirteen hours after death by Dr. Jackson and the writer.

Abdomen only opened. A general view of the interior of the abdomen showed the presence of general peritonitis, with adhesions existing between the convolutions, very little fluid in the cavity, the livid look of intense inflammation over the whole of the peritoneum, visceral and parietal. The omentum was shriveled to an inch of irregular fringe across the upper part of the abdomen. The whole surface of the peritoneal membrane and the omentum was covered by countless little masses from the size of a mustard seed to that of a grain of wheat. These were too solid to be the ordinary product of inflammation, and a specimen placed under the microscope showed it to be tubercular.

Examination of the small intestine showed nothing worthy of remark. The appendix was a shriveled, knotted cord, less than two inches long, the caput coli was largely distended, being nearly or quite four inches in diameter, doubtless caused by a narrowing that existed, commencing at the sigmoid flexure and extending upward seven or eight inches, and diminished in calibre so as to no more than admit the finger. All along this portion it was thickened, indurated and contracted by inflammation, involving the whole structure—not alone the peritoneum, which elsewhere seemed alone affected, but the muscular and mucous coats as well. It was from this part, doubtless by rupture of a vessel by distension, when the last mass was voided, that the fatal hemorrhage came.

I am inclined to think that the tubercular deposit was one of the later occurrences in this case, as miliary tubercle of the lungs has often produced symptoms of acute pneumonia, or, possibly, during the progress of an acute pneumonia this form of tubercle has been deposited.

I also think that the large masses expelled were the result of a

long period of constipation and imperfect digestion, the large intestine becoming to a great degree sacculated, accommodating itself to the presence of the obstructions, and when they are suddenly, from any cause, removed, the newly exposed part readily taking on inflammation, or an already existing chronic inflammation suddenly taking the acute form.

ARTICLE II.—*Elixir Iodo-Bromide of Calcium Compound in Scrofulous Induration of the Nose.* By X. T. BATES, M.D.,
New Lebanon, N. Y.

Was called in February, 1872, to visit Mrs. R. Found her suffering from a troublesome tumor in the right naris, of some twelve months standing, so large as to disfigure the face, accompanied with intolerable burning and itching sensations, which had obstinately resisted every method of medication to which she had been subjected, which I learned comprised both discutient topics and alteratives, and anti-scrofulous remedies. I suggested the use of several lotions and internal medicines, no one of which she appeared inclined to favor, remarking, "it is almost needless for me to use that which has already proven worthless in my case—give me a new prescription." I then prescribed as follows:

R. Elix. Iodo-Bromide Calc. Co., - - - - o j.

Sig. Take one teaspoonful one hour before each meal; after one week increase the dose to two teaspoonfuls.

This was sufficient to effect a cure which I will pronounce permanent, inasmuch as there has been no return of her difficulty since its disappearance nearly a year since.

I have no hesitation in pronouncing the elixir iodo-bromide of calcium comp., introduced to the profession by Tilden & Co., the most efficient and satisfactory anti-scrofulous preparation I have ever used, but the sphere of its usefulness is by no means confined to scrofula. Aside from this special usefulness it has an application as diversified as the term *alterative* can make it.

ARTICLE III.—*Poisoning from Corrosive Sublimate generated in the Mouth from Amalgam Plugs in the Teeth.* By J. PAYNE, D.D.S., Dwight, Ill.

Having been invited by an eminent gentleman of the medical profession to attend a convention of the State Medical Society, to submit to its consideration a matter of vital importance to the human family, and being unable to comply with the invitation, I have written this article to lay the matter before the medical profession and ask its co-operation.

The matter which I wished to bring to the notice of the profession is the poisoning of thousands of people all over the world from corrosive sublimate generated in the mouth from amalgam plugs in the teeth. Neither Asiatic cholera, nor small-pox, nor any malarious disease, is doing half the mischief in the world that is being done by this poisoning. Every medical man of any considerable practice has undoubtedly had numerous cases of it, but never knew what it was. The symptoms are so numerous and varied in different cases that it would be impossible to give them all in this short article, but I will say that a person poisoned in this way is liable to be treated for dyspepsia, neuralgia, paralysis, consumption, and numerous throat diseases. The patient gradually wastes away as if going into a decline, and no medicine will afford any relief. In many cases the difficulty steals on so gently as not to excite the least alarm, and continues very gradually for a number of years till the patient becomes a total wreck, while in others the attack comes on violently and the friends and attending physician think the patient is dying, but he will again rally and again be prostrated.

There is such a resemblance in the symptoms to nearly all the diseases to which human flesh is heir, that the physician is led to treat the patient for some disease which seems to be a very clear case, but his patient gets worse. In more than twenty cases that I have had, nearly all had been pronounced by some physician as having consumption. In nearly all the cases there are at times a very bad cough, eyes sunken, and haggard expression and deep blue or dark color under the eyes, invariably a metallic taste in the mouth, water flowing from the mouth in the night while asleep so as to wet the pillow, and in most cases extreme prostration.

I have not time now to detail the manner in which the corrosive

sublimate is formed in the mouth, further than to say that the quick-silver in the plugs is driven off by the heat of the mouth in very minute particles, and, combining with the chlorine in the fluids of the mouth, or any saline substance, such as our food, passes into the stomach, and produces slow poisoning. If the State Medical Society will appoint a committee to visit this place, I will show them several cases that will place the matter beyond controversy.

There are some twelve thousand dentists in the United States doing a wholesale business at this poisoning, and I ask the co-operation of the State Medical Society, as guardians of the public health, to assist in getting an act of Congress passed making it a penitentiary offense to place any poisonous substance in teeth that will injure the people.

ARTICLE IV.—*Bromo-Chloralum in Scirrhus Affections of the Stomach.* By X. T. BATES, M.D., New Lebanon, N. Y.

I desire to call the attention of the profession to the use of bromo-chloralum manufactured by Tilden & Co., simply as a palliative measure in cancer of the stomach, in which affection it has very recently proven, in my hands, of signal service in the case of M. B.,—male—Irish—farmer.

At the period of my first visit, in January, of the present year, I learned that he had been on the decline for a year or more, and at times a great sufferer, with progressive loss of strength and weight, until he was finally obliged to take to his bed altogether. The history and condition of the case were such as to leave no doubt as to the cause of his sufferings and of the ultimate result. I found him anæmic and emaciated, appetite impaired, with marked feebleness and lack of vital force, lancinating pains in the vicinity of the stomach, cancerous cachexia and occasional vomiting of purulent matter, with eructations so offensive as to demand imperatively some combative agent.

Having on several previous occasions satisfactorily tested the disinfecting virtues of bromo-chloralum in the sick room, and also demonstrated its unquestionably remedial properties in foul breath,

it occurred to me to make trial of it in this case—prescribing as follows :

R. Bromo-Chloralum,	-	-	-	-	-	-	-	dr. i.
Water,	-	-	-	-	-	-	-	oz. i.
Ess. Wintergreen,	-	-	-	-	-	-	-	q. s.

Sig. One teaspoonful every four hours.

The effect was magical; the offensive factor at once disappeared, the nausea was controlled, the countenance became brighter, and for a short time the hopes of the patient were revived that ultimately he might be cured. The bromo was the only medicine that appeared to afford him any relief, and its use was continued up to the time of his death, happily subserving the purpose for which it was given.

Selections.

Nature and Treatment of Vaginismus. By DR. MACK, of St. Catharines. Read before the Medical Society, St. Catharines.

This extremely annoying disease is so perfectly under the control of the surgeon, that it should be placed among the well recognized forms of complaint, for which his resources are called upon. Efforts have been made of late to call in question the propriety of Sims' or Simpson's operations, based doubtless upon cases of abuse.

Having operated in all, about ten times, I would now submit a condensed history of two typical examples of the disease and its treatment.

Mrs. G., married eighteen months, menstruation regular and normal except in being attended with some dorsal and hypogastric pain. Sexual intercourse extremely unpleasant and painful, yet tolerated, although with much repugnance; her husband complained to Dr. M. that his married life had been very far indeed from what he had expected it to be. Examination per vaginam proved to be very difficult from the great sensitiveness of the ostium vaginæ; examination by the speculum was not to be attempted without anæsthesia. The carunculæ myrtiformes and remains of the hymen were florid and large, but the seat of most

exalted sensation appeared to be at the fourchette, accompanied by spasm of the sphincter vaginae. Examination under chloroform showed symptoms of endo-cervicitis.

The following day, full insensibility having been produced, I introduced two fingers of my left hand, and having divaricated them so as to put the parts fully on the stretch, I made two incisions so that they should represent the letter Y, the oblique part of the incisions commencing about two inches up the vagina, about one inch from the mesial line along the posterior wall, dividing the mucous coat, and after being continued to within less than one inch from the perineal surface, then carried straight in the mesial line, and dividing the soft parts freely for about half an inch from the raphe perinei the same oblique portion of the incision was then made upon the opposite side.

Pledgets of charpie soaked in a weak solution of persulphate of iron were placed in the incisions, and a compress secured by a T bandage; the strictest quiet and rest in bed were enjoined. Cold applications of lint, wet with iced water, were kept up, the bladder being relieved every eight hours by using the catheter. After forty-eight hours the dressings were removed, and one of Sims' glass dilators directed to be introduced occasionally, and retained for about two hours.

Four days after the operation, the use of the dilators proving extremely painful, full anæsthesia having been induced again, the remains of the hymen were carefully and thoroughly removed by a small curved scissors. No hemorrhage followed, and in about twenty-four hours the dilators could be tolerated. Two weeks after the first operation the local treatment for the inflammatory condition of the cervix uteri was commenced, and after about two months treatment a complete cure was effected, resulting in the birth of a healthy son in less than ten months. This case is one of the milder type; the next is a fair sample of the more severe forms of the disease.

Mrs. M., married about three years, without issue, declares that perfect connection has never been effected. Her husband has been morbid and unhappy, and the matrimonial alliance is likely to terminate in great misery for all parties. Examination per vaginam could not be thought of, the attempt was violently repelled by involuntary struggles. After inhalation of chloroform, examination disclosed the hymen partially ruptured, and the entrance of the vagina rigid, and small as in the virgin state; keeping up the anæsthesia the incisions were at once made as already described, and then immediately the remains of the hymen were carefully dissected away. Persulphate of iron was applied to the bleeding surfaces, and a small glass dilator was introduced and maintained by compress and bandage.

In twenty-four hours the dilator was removed, wet compresses were applied, and forty-eight hours after the operation a larger dilator was introduced for about twelve hours. From this time, for about fourteen days, the dilators were inserted, gradually increasing their size at intervals of about two hours, and retained about two hours each period. A speculum was then introduced, and local treatment directed to a slight endo-cervicitis, which yielded in the space of six or seven weeks.

The lady returned to New York, her residence, and in less than one year from that time, she gave birth to a fine healthy infant.

The first report of any treatment for this distressing neurosis is to be found in Burns' Principles of Midwifery, where, in the portion of his book assigned to describing the anatomy of the pelvis, and when treating of the pudic nerve, it is stated: "The pudic nerve, after re-entering the pelvis, gives off several small branches, which go to the obturator internus, sphincter ani, and extremity of the rectum. It then divides into two. The trunk as it may be called, runs forward with the artery to the clitoris, covered as it proceeds along the rami of the pubis, by the erector.

The other division is distributed to the perineum and vagina. It approaches the vagina nearly in a line with its junction with the perineum, and subdivides and ramifies on the end of that passage, but chiefly on its orifice.

This nerve is often preternaturally sensible, so as to cause great pain in coition as well as at other times. It may be exposed by cutting through the skin and fascia, at this side of the labium and perineum beginning in a line with the front of the vaginal orifice, and carrying the incision back for two inches. The nerve being blended with cellular substance, is not easily seen in such an operation, but it may be divided by turning the blade of the knife and cutting through the vagina to its inner coat, but not injuring that. It may be more easily divided by cutting from the vagina. Slitting merely the orifice of the vagina will not do. We must carry the incision fully half an inch up from the orifice of the vagina, and also divide the mucous membrane freely in a lateral direction.

In another place he tells us that the sensitiveness is sometimes dependent on little tubercles or inflamed patches at the orifice, in which case, we may try the free application of nitrate of silver with or without scarification.

But if there be no tubercles, and especially if there be tightness at or within the orifice, we must in one or more places divide the mucous coat, as high as there is anything like a band.

Dr. Neffel reports a case successfully treated by electricity.

Dr. Mahend also, in his book "*Sterilite chez la Femme*," reports a success from the same mode of treatment.

There are other cases of pain in coition, distinct from vaginismus which must be borne in mind, *e.g.*, painful affections of any of the parts adjacent to or contained in the vulva, inflammation of Bartholine's follicles.

The operation performed by me depends, I believe, wholly for success upon the after treatment, by keeping up dilatation, for all of which we are indebted to the practical ingenuity of Dr. Marion Sims.

I wish to be clearly understood that I do not advocate the performance of this operation in all cases of vaginodynia indiscriminately, but in cases where it is not due to hysteria curable by constitutional measures, or to fissures and sores of the vulva, eruptions or neuromata, vaginitis or metritis in any of its forms capable of treatment, locally or generally, or to tubercle of the meatus urinarius, but rather to those cases dependent upon spasm of the sphincter vaginae with an excessively irritable condition of the nervous filaments. Emmett divides the fibres of the sphincter, and the tense corded band usually to be found at some part of the vaginal wall.

I do not think that vaginismus depends wholly upon spasm of the sphincter vaginae, but upon pain in the faciae and muscles deriving sensation from the branches of the pudic nerve and which must, of necessity, be divided and kept from re-uniting by the method of Sims.

Debout, Chamie, and Muhon, all recommend the operation as described by Burns. Simpson operated subcutaneously with a tenotome.

Menville de Pouseen recommends, when the affection will not yield to constitutional and local mild remedies, cauterization of the inferior portion of the vaginal orifice. Lisfranc reports a case cured by bougie. I have seen belladonna, atropine and the glass dilators succeed, but in our devotion to conservative surgery, we must draw the distinction between that and no surgery, and remember that the cruelty lies in losing time and creating suffering from months of futile efforts at gradual or forcible dilatation, or wearing out the patience of all concerned with quantities of medicaments consigned to the stomach, local baths, poultices or ointments.

Pregnancy would prove a sure remedy, but I think it likely that the indelicate proceeding of anæsthetizing a woman and leaving her to the marital embrace, as reported by another practitioner, would prove very difficult to reduce to general practice.

In conclusion, I would state that, with one exception, the cases I have met with were found among that class of society in which

the intellectual faculties are too often exercised at the expense or neglect of the physical.—*Canada Lancet*.

Some Conclusions in Regard to General Paresis, with the Report of a Case under Observation. By HORATIO R. BIGELOW, Boston, Mass.

A case of general paresis now under treatment, although only in the first of the three stages described by Calmeil, suggests a few conclusions in regard to some of the characteristic nervous phenomena which form a prominent symptom in the development of the disease.

First of the Case.—The patient is a man fifty years old, tall and stout; the forehead is very narrow transversely, depressed in the region of the spheno-frontal articulation and at the cranial and vertex; the face, when at rest, is entirely devoid of expression, the integumental folds are obliterated; the chin is corrugated from contraction of the levator-menti muscle; the complexion is sallow; the eyes are sleepy and dull, the pupil of the right being larger than that of the left, and dilating irregularly; there is an air of perfect placidity and great self-importance about the patient's demeanor; the appetite is almost voracious, at the same time that it is capricious; there is, also, occasional regurgitation of the food.

Local Alterations.—Muscles of tongue affected; there is hesitancy of utterance, inability to pronounce the labials correctly, a slurring, guttural manner of speech, but with no disposition to garrulousness, the patient recognizing his own defects; while giving utterance to certain words the head is thrown slightly upward, and the lower lip twitches spasmodically, conveying a peculiar motion to the chin; the tongue alternately contracts and relaxes when protruded.

Motor Functions.—Some of the local phenomena might point to a more advanced stage of the disease, were it not for the fact that the motor functions of the extremities are not perceptibly implicated; the patient's walk is a language of its own, it conveys the entire sense of egotistical importance, that entire indifference to other mortals which is so characteristic of the mental condition of the patient; the foot, but slightly raised from the ground, is advanced slowly, with but little flexion of the leg, and planted flat on the ground with a determined air.

Mental Condition.—There is unvarying contentment of mind, buoyancy of spirit, and unclouded hope; to an interrogation as to the state of his health, he would make reply, "First rate; never

better," etc.; he is fond of discoursing upon the extent of his business, his charming residence, and his family connections; he is contemplating a tour on the continent, with his family, to extend over a period of many months; his memory of past events is perfect, but he cannot remember the substance of what he has read five minutes previously; he has developed a decided tendency to kleptomania of late, using much ingenuity in concealing his depredations; he has great elation of ideas, and sees everything *coulour de rose*.

Ophthalmoscopic Signs.—Congestion (slight) of the disk.

I am aware that this case presents no features hitherto unknown to the profession, but it is an excuse for dwelling somewhat upon the value of the ophthalmoscope in the diagnosis of cerebral diseases, and for advancing a few theories in regard to the mental implications.

I am indebted to my friend Dr. R. A. Vance, an eminent practitioner of New York City, for the valuable data in relation to the ophthalmoscopic signs in general paresis.

"In every case of general paralysis that has fallen under my observation, the ophthalmoscope has revealed morbid changes of a vascular, neuritic, or atrophic character. In thirty-one cases of which I have notes of the intra-ocular appearances at the time I first examined them with the ophthalmoscope, eleven presented evidences of atrophy of the disk and surrounding parts of the retina, thirteen of neuro-retinitis, and seven of congestion of the disk and retina. Those cases in which neuritic and atrophic changes were marked were of long standing, while those in which vascular derangement alone was present were in the early stages of the disease. In three out of seven cases characterized by congestion of the intra-ocular structures, repeated ophthalmoscopic observations demonstrated the subsequent development of neuro-retinitis, which finally terminated in atrophy of the intra-ocular portion of the optic nerve. The rapidity with which the neuritic and atrophic changes succeed the congestive appearances bears no relation to the general progress of the intra-cranial disease, but seems to depend upon local causes which, as yet, have not been determined."

The "elation of the ideas" is due to a vicious action of the vesicular neurine of the ideational centres, rather than to an exaltation of the faculties of the mind. The molecular condition representing imagination undergoes a specific, minute change, by which its harmonious action with the centres of judgment becomes disrupted, and commonplace expression results. One of the first appreciable mental changes of general paresis consists in this perverted imagination, this intellectual feebleness; and from the consideration of these symptoms we are led to a probable location of the universal lesion. There is in this disease a very manifest

want of emotional control. Now, as emotion depends upon the sensibility of the vesicular neurine to ideas, and as the idea depends upon the impression made upon the supreme centres,* it follows that any molecular change of this latter will affect all the mental organization, since we believe that the human mind is the perfected harmonious *force*, generated by the ideational centres, and that this force will vary in intensity according as it is evolved by a more or less intricate arrangement of the cerebral convolutions, and from a small or large number of cells. The emotional aberration depends directly upon a degeneration of will, which we should expect to be the case, as no such abstraction of *the will*, apart from its mental relationship, has a recognized existence. That memory preserves its integrity to an advanced period in paresis may be due to the fact that the centres in which ideas are registered are the last to yield to the vicious action, or that the residual force of the previous normal condition thus stored up discharges with fidelity its routine of the past, without having sufficient vital organization to retain impressions of the present. Corroborating instances of this species of conservatism are by no means rare in the life of private practitioners, being frequently met with in the course of certain febrile and cerebral diseases. In every organic element of the body there is this registration of ideas, and the impression once made is indestructible; but as the integrity of action depends upon the harmonious assimilation of philosophical ideas, the retentive power may be perverted or obscured by an abnormal condition of the ideational centres. From the relation and assimilation of ideas emanate imagination, hence a vivid imagination would result from some molecular change in the centres generating the idea, while an unhealthy imagination would depend upon diseased action of those centres. Whether the paralysis precedes the mental degeneration, or is preceded by it, must, at present, be considered as *sub judice*; but I am inclined to believe that, in the great majority of cases, want of motor co-ordination is secondary to the nervous lesion. This supposition is based upon a knowledge of the intimate and dependent relationship of the sensory-motor and higher nervous centres. A disease of one centre, by a process of vicarious emigration, may convey its contaminating influence to a very remote cell, whose functions in the processes of life and thought may be of an entirely different nature, thus developing a complex irregularity out of the original simple lesion. Who shall limit the extent of power in the higher centres? or who can measure the dependence of the physical upon the psychical? The minutest polar change in the molecular arrangement of the vesicular neurine of these supreme centres is felt, sometimes inappreciably, throughout the human

* Maudsley's "Body and Mind."

organism. A prick of a pin conveys to a special department its sense of pain, and immediately a reflex action ensues in the member thus abused; but if disease interrupt the action of this nervous centre, anæsthesia of the parts supplied by it necessarily results, so soon as the primary residual force shall have spent itself. In those cases of general paresis in which it is asserted that the paralysis manifested itself primarily, it is more than probable that the mental lesion did exist, but manifested itself by such slight external symptoms as to have been overlooked.—*Canada Med. and Surg. Journal.*

Varicose Hemorrhage from the Cervical Zone of the Uterus, Complicating Labor. By GUSTAVUS C. P. MURRAY, M.D., Obstetric Physician to the Great Northern Hospital, late Senior Physician to the British Lying-in Hospital, and Vice-President of the Obstetrical Society of London.

The rarity of cases of this kind is, I think, sufficiently shown by the little, if any, mention that is made of the subject in most of the published works on Obstetrics.

Dr. M'Clintock in his "Clinical Memoirs on the Diseases of Women," draws attention to what he terms *Uterine Hematocœle*, and gives the history of two cases, both of which I shall hereafter recite, to show the points of resemblance and difference between them and those I am about to describe.

Mrs. B., aged twenty-seven, first labor, full term of gestation. In a weak, feeble state of health, without much stamina, and of a nervous temperament. She was about to retire to bed, when, with little or no labor warning, she felt that blood was running from her. Not being able to obtain the services of her engaged medical attendant, her husband requested Dr. Kirby to see her. The summons was quickly obeyed, and on his reaching the house, he found the patient in bed, very weak and fainting, owing to the loss of blood that had taken place, and which was still going on. On making an examination he felt what resembled the edge of the placenta, rather high up, and without loss of time the vagina was carefully plugged, and all further bleeding arrested. The os uteri was only partially dilated, and the liquor amnii had not escaped. It being suggested that a second opinion should be obtained, I had the pleasure of meeting Dr. Kirby.

Between the time of being sent for and arriving, the patient had lost little or no blood, and had not experienced any decided pains. After consultation, I determined on removing the plugs to see if delivery was practicable, and found the os uteri fully dilated, the membranes tense, and very little hemorrhage going on.

I passed my finger as high as possible within and around the cervix, but could not pronounce what was felt to be any portion of placenta. A full dose of ergot was given, the membranes were ruptured, and the labor progressed quickly and terminated favorably. The child was born alive, and the placenta expelled shortly afterwards without further hemorrhage; but we had some difficulty in keeping up the patient's strength and heat of body. Having failed to recognize the case as an ordinary one of placenta prævia, or accidental hemorrhage, we were left in doubt as to the source of bleeding, though the feature of the substance felt naturally suggested the presence of placental tissue.

I heard no more of this patient until thirteen months afterwards, when I was again sent for by Dr. Kirby to see her. She was now in labor with her second child, and, as on the previous occasion, hemorrhage had again set in as freely as it had done in her first confinement, and without there being any appreciable pain—in fact, exactly as before. On arrival, I found that Dr. Kirby had thoroughly plugged the vagina, administered nourishment, and given a fair amount of stimulant. Her general state of health had considerably improved since her previous confinement, and therefore she was now better able to bear the loss of blood.

After waiting some little time by the bedside of the patient, we observed a small *continuous stream* of dark-colored blood passing from the vagina. There were also some slight pains, and the bleeding seemed to increase somewhat at the commencement of them. After removing the plugs, I instituted a careful examination, and on reaching the os uteri, I found it dilated to the size of a crown, the membranes unruptured, and the foetal head presenting. The cervix felt *large* and *pulpy* at its posterior aspect, and was rather low down in the vagina.

Passing my finger as far as possible within the uterus, I carried it well round the circumference of the cervix, but could not meet with the least trace of placenta. I however felt at one spot, corresponding to the external portion beforementioned as large and pulpy, a swelling rugose in character, with its edges raised and thickened. Two fingers distinctly passed over and beyond this enlargement, and reached true smooth uterine tissue on all sides. This fact, with that of not being able to detach any portion of the mass from the uterine wall, put the possibility of its being placenta out of the question.

On pressure with the fingers the swelling yielded, and became smaller, or reduced in size, and the bleeding was noticed to lessen or cease, returning again when the pressure was removed, and the hand when withdrawn was covered with venous blood. Dr. Kirby repeated all that I had done, and the same results were obtained. As labor was advancing, and the fetal head making fair pressure downwards, thereby materially staying the hemorrhage, we re-

solved to let nature take her course, assisted only by ergot and occasional restoratives. But we agreed to pass a plug dipped in a solution of iron, to the bleeding surface, if the hemorrhage again became excessive. There was, however, no necessity for this, and the labor terminated in the usual way, and favorably to both mother and child.

This second confinement demonstrated to us the cause of hemorrhage at the first labor, and it became clear and convincing, that these two early attacks of severe bleeding arose from the same source in both labors, and were due to an unusual varicose state of veins at the cervix uteri giving way during the commencement of labor. Under the circumstances attending the first labor, it was difficult, if not impossible, to arrive at anything like a correct diagnosis; but at the second confinement there was more time and opportunity afforded, and I was at the onset greatly assisted by calling to mind the absence of the diagnostic points of difference between unavoidable and accidental hemorrhage, and having before me symptoms differential in kind. The treatment adopted in both cases was simple and efficacious, requiring compression from below at the early stage of the labor, and subsequently the head in coming down gave the pressure from above, commanding or keeping in check the hemorrhage. It is important to mention that this lady, fourteen days after her second confinement, had a smart attack of uterine hemorrhage, requiring the immediate attention of Dr. Kirby, who succeeded in arresting it only after the employment of the appropriate remedies for such cases. Dr. M'Clintock says—"Let us now turn to that very rare variety of thrombus, in which the lip, or the lower part of the cervix of the womb, is the seat of extravasation. To all such cases I would restrict the term *Uterine Hematocele*." He then gives the two following cases; the first was brought before the Dublin Obstetrical Society in 1850, by Dr. George Johnston, and was as follows:—"The patient, a robust countrywoman, aged thirty-five, in her seventh pregnancy, was delivered of a female child, evidently some time dead, after an easy labor of four hours, the breech having presented. The placenta was expelled in about ten minutes. No hemorrhage or untoward symptom of any kind supervened, and everything went on favorably for the first three days."

On the fourth day Dr. Johnston was sent for in a great hurry, owing to a violent attack of hemorrhage. On seeing the patient within four minutes from the first gush of blood, he "found her lying on her back, countenance perfectly blanched, and expressive of anxiety, which, with her neck, hands, and arms, was bathed in cold clammy perspiration. No pulse could be felt at the wrist, and the bed was inundated with blood, which was still flowing from the vagina." After using every effort to control the hemorrhage and recruit the patient's strength with some amount of

success, the flooding recurred, and she fainted and rapidly sank. At the post-mortem the uterus was found well contracted. "On the left side of the cervix, about an inch from the os uteri, was observed a ragged, sloughy-looking opening, the edges of which were irregular, and of a black ash-gray color. This opening, which was large enough to admit two fingers easily, communicated with a cavity the size of a small orange. It seemed to be formed in the substance of the cervix, and its external wall was found to be the projecting tumor beforementioned, as seen from the outside." Dr. Montgomery, speaking of this case in the *Dublin Quarterly Journal*, 1851, says:—"A careful examination of the specimen convinced me that it was a case of thrombus, whose external envelope formed a thin layer of the uterine tissue, became gradually thinner, and finally ruptured."

Dr. M'Clintock's second case is taken from the writings of Mr. Robertson of Manchester. The patient was twenty-five years of age, third pregnancy, and delivered by turning in consequence of a hand presentation. The placenta was expelled without any unusual symptoms, and there was not much uterine discharge. On the eighth day after delivery she was seized with vomiting, and towards evening a sudden and very copious flooding came on; the quantity lost was estimated at two or three pounds. The hemorrhage appeared again after the lapse of two days to an alarming degree, and she died on the eighteenth day after delivery.

Post-mortem.—"Uterus not so much contracted as is usual. Near the neck on the left side, and between the folds of the broad ligament, there was some appearance of extravasation, and a sac partly filled with bloody pus was opened, which sac communicated by a large aperture with the general cavity of the uterus. On laying open the interior of the uterus there was the appearance of a deep excavation or ulceration, capable of readily admitting a finger or two, leading to this sac." Mr. Robertson "looked upon it as a partial rupture of the organ." "But," says Dr. M'Clintock, "there can be little doubt that this rupture of the uterine tissue was, in the first instance, the result of extravasation of blood into the muscular substance of the uterus."

Dr. Montgomery narrates the case of "a lady affected with varicose veins, which extended all up the lower extremities, and could be traced into the vagina, was delivered, after a natural and favorable labor, at midnight, but shortly afterwards a fearful rush of blood took place very unexpectedly, for the *uterus was well and firmly contracted*." She became cold and pulseless, with no radial pulse for six hours. On examination, "in the situation of the anterior lip its substance felt as if broken up into a soft pulp, the consequence, as I believe, of the formation and rupture of a bloody tumor."

This patient ultimately completely recovered. In all the three

cases given, the hemorrhage took place after labor, whereas in those I now bring forward it was present only during the first stage of labor, with a repetition in the second case, where it recurred at the end of fourteen days, and thus far resembling the cases quoted.

In the first two cases referred to, both ending fatally, the mischief in the uterine tissue must have extended deeper and covered a much larger surface than it had done in my cases and in Dr. Montgomery's; and doubtless, owing to the softening and disintegration of the muscular wall of the uterus at the site of the thrombus, perfect and *complete* contraction, most probably, could not take place, and the hemorrhage was not permanently arrested—whereas in the other cases, fortunately for our patients, the varicose condition being of a less severe character, the hemorrhage either ceased naturally or yielded to the treatment resorted to. Another point having probably much to do with the ultimate result of the case, is the situation of, and period of labor when, the rupture of the varix takes place. My cases and Dr. Montgomery's illustrate, as far as I know, the most favorable conditions of an unwished-for accident of the kind; and happily many conditions have to exist, or combine as it were, before this dangerous and unforeseen hemorrhage can take place either during or after labor.

The existence of a varicose state of the lower extremities during pregnancy, especially if extending upwards to the vulva, should, I think, put the obstetrician on his guard, not only as to the possibility of the occurrence of the hidden source of uterine hemorrhage we have been speaking of, but also as to the chance of the sudden rupture of the distended veins in and around the labia. In a work published in Paris in 1807, "*Traite d'Accouchements, etc., par C. M. Gardien, M.D.,*" under the heading "*Des Varices,*" he says, "Those tumors formed by the dilatation of some engorged veins show themselves most frequently about the eighth or ninth month of pregnancy. They are to be seen in the labia, vagina, and even at the *cervix uteri*. In this last situation they seriously interfere with labor, and great care is required on the part of the accoucheur, for fear of their rupturing and causing fatal hemorrhage.

Dr. Gardien adds that nothing should be omitted to prevent rupture, and recommends during the straining efforts of labor that the veins should be supported or strengthened by means of one or two fingers; and after delivery plugging is the most suitable method of keeping in check the hemorrhage produced by the rupture of a varix of the neck of the uterus.

Dr. McClinton, in his concluding remarks on the subject, after saying that it is one of extreme interest, even in a purely practical point of view, and having strong claims on our attention, states—"I have shown that it has a close bearing upon three of the forms of hemorrhage incidental to child-bed, viz., hemorrhage in the

second stage of labor; hemorrhage immediately succeeding parturition; and secondary hemorrhage occurring some hours or days after delivery."

I would now, from the experience of the two cases I have brought before the profession, add a *fourth* and earlier stage at which this kind of hemorrhage may and has taken place—namely, during the *first* or *dilatation* stage of parturition.—*Obstetrical Journal*.

Phthisis as related to Syphilis and Scrofula. Prize Essay by H. C. HAND, M.D., of St. Paul. (From Transactions of the Minnesota State Medical Society, 1873.)

A number of writers and lecturers, men of authority in the medical profession, have at various times advanced an idea that a relation existed between some cases of phthisis and syphilis, or, as most of them have worded it, "between syphilis and tuberculosis of the lungs," the sharp distinction between tuberculous and non-tuberculous phthisis having become but recently generally recognized.

Scrofula and tuberculosis were also once described as not essentially differing from each other, but of late have been more or less separated.

Phthisis is no longer viewed as necessarily, or even generally tuberculous; and any relation of syphilis to phthisis has been scarcely more than hinted at, certainly not proved, if any steps, indeed, have been taken towards the proof. In this obscure status of affairs the following problems present themselves:

1. Does syphilis ever produce phthisis, and if so, is it a frequent cause?
2. Granted that it does, in what way, and what form, the tuberculous or pneumonic?
3. Are tuberculosis and scrofula closely allied, or even identical?
4. What connection, if any, has syphilis with scrofula and tuberculosis?

In the spring of 1870, beside many equivocal cases which were excluded from his note book, the writer had access to and partial care of fifty-five cases of constitutional syphilis; these were *all* examined as to the condition of their lungs, and the result is given in the following table. With a single exception, a case of chronic pleurisy (No. 27), the lung troubles have a history of having commenced since the initial sore, in most instances since the appearance of constitutional manifestations.

CASES OF SYPHILIS TABULATED WITH REFERENCE TO CONDITION OF LUNGS.

No	Time since Appearance of Chancre.	STAGE.	FAMILY HISTORY.	CONDITION OF LUNGS.
1	9 mos.	Secondary.		Normal.
2	3 yrs.	Tertiary.		Pleuritic Adhesions.
3	3 mos.	Secondary.		Normal.
4	4 yrs.	Tertiary.		"
5	13 yrs.	"		Pleuritic Adhesions.
6	4 mos.	Secondary.		Normal.
7	7 yrs.	"	Healthy.	Phthisis.
8	3 yrs.	Tertiary.		Normal.
9	4 yrs.	"		Repeated Pleuritis.
10	2 yrs.	Secondary.		Advanced Acute Phthisis.
11	"		Phthisis.
12	15 mos.	Tertiary.		Normal.
13	1 yr.	Secondary.	One Sister Consump.	Phthisis.
14	3 mos.	"		Bronchitis.
15	7 yrs.	Tertiary.		Normal.
16	2 yrs.	"	Mother Consumptive.	" [Phthisis.
17	6 yrs.	"		Pleuritic Adhesions and Incipient
18	5 yrs.	"	Healthy.	Normal.
19	2 mos.	Secondary.	"	"
20	15 mos.	"		Phthisis; Pleuritis.
21	1 yr.	Tertiary.		Normal.
22	6 yrs.	"		Phthisis.
23	5 mos.	Secondary.	Father & Mother Con.	"
24	9 mos.	"	Mother & Brother Con.	"
25	3 mos.	"	Healthy.	Acute Phthisis.
26	10 mos.	"	"	Normal.
27	2 yrs.	Tertiary.		Pleuritic Adhesions.
28	4 mos.	Secondary.	Healthy.	Acute Pleurisy.
29	2 yrs.	Tertiary.	"	Acute Bronchitis.
30	9 yrs.	"	"	Phthisis; Pleuritic Adhesions.
31	4 yrs.	Secondary.		Phthisis.
32	20 yrs.	Tertiary.		Phthisis; Pleuritic Adhesions.
33	2 yrs.	"		Normal.
34	2 yrs.	"		Phthisis.
35	10 yrs.	Secondary.	Healthy.	"
36	1 yr.	Tertiary.	Mother Consumptive.	Pleuritic Adhesions.
37	8 yrs.	"		Normal.
38	5 yrs.	"		Phthisis; Pleuritic Adhesions.
39	7 yrs.	"		"
40	1 yr.	Secondary.		Normal.
41	15 mos.	Tertiary.		Phthisis.
42	5 yrs.	"		"
43	3 mos.	Secondary.		Acute Bronchitis.
44	12 yrs.	Tertiary.		Chronic Bronchitis.
45	8 yrs.	"		Normal.
46	5 yrs.	"		Emphysema.
47	4 mos.	Secondary.		Phthisis.
48	3 yrs.	Tertiary.		Normal.
49	4 yrs.	"	Very Consumptive.	Phthisis.
50	1 yr.	"		Chronic Pneumonia.
51	1 yr.	Secondary.		Phthisis.
52	14 mos.	Tertiary.		Normal.
53	1 yr.	Secondary.		Phthisis.
54	8 yrs.	Tertiary.		Phthisis; Pleuritic Adhesions.
55	14 yrs.	"		Normal.

It may be noticed that several of the cases, in which years have elapsed since the contraction of the chancre, are marked as secondary. By this is meant that no tertiary symptoms have appeared, not necessarily that the secondary still persist. In like manner active developments of tertiary lesions were not always present in the tertiary list, sometimes only their indelible footprints.

In seven of the above cases there was a coincidence of pleuritic adhesions and phthisis, the former either having ante-dated the latter, or being so extensive as to be incapable of being viewed as a sequence of it. These seven cases will account for the excess of diseases mentioned below over the number of patients.

In the fifty-five unselected syphilitic patients but twenty were found whose lungs were entirely sound, while there were twenty-four with phthisis in a more or less advanced stage. Twenty-four in fifty-five, forty-three per cent. ! Surely a larger per cent. than is found in non-syphilitics, even taking into account the class of paupers among whom the observations were made. Here, then, is the first fact learned from the table, and we are now reasoning only from the table such as it is, although we might wish it fuller, larger, and more conclusive. *Phthisis is more frequent in syphilitics than in non-syphilitics.*

The only other lesion frequently noted was pleuritic adhesion in ten cases among the tertiary syphilitics, while in the secondary class no chronic pleuritis were found, but two cases of acute.

Let us review a few cases in detail in which a pulmonary trouble was superadded to syphilis, that we may attempt to gain some additional light from them.

I. Jane T., whose case was fully reported to the Society at its last Annual Meeting and published in the last volume of Transactions. While syphilis was running in her system a rapid and malignant course she was attacked by capillary bronchitis which led to lobular solidifications in the upper and lower lobes of both lungs. These solidifications were possessed of great firmness, and, although six months had elapsed between the date of their formation and the fatal termination, no attempt at softening was anywhere found.

II. Adam Jordan; æt. 24; colored; native of Alabama; had two chancres in March, 1869, and a non-suppurating bubo on each side. In the following July the lymphatic glands of neck began to swell, and in the fall a lichenous eruption covered the body. During April, May, and June, 1870, he was under observation, having the dark traces of his former eruption still remaining, and a fresh tuberculoid syphilide. The glands of the neck on each side, especially those below ramus of jaw, were enormously swollen, indolent and hard, the mass being larger than one's double fist. His condition remained essentially the same until October, 1870, when he slept on the floor of the ward and was attacked by pneumonia, of which he died at the end of six days.

Autopsy; 10 hours after death. Skin maculated. Neck slightly smaller than six months before. Bronchial glands greatly enlarged,

grayish black, and of diminished consistence. Lungs: posterior portion of both, and apex of one, in a state of gray hepatization, being of a uniform gray color, heavier than water, not crepitating on pressure and readily breaking under the finger; pus exudes from the cut ends of the small bronchial tubes. In those portions of the lungs comparatively free from disease, separate and distinct lobules are found undergoing the same process as above. No tubercle in either lung.

Spleen: triple or quadruple its normal size, dark red, firm, and nodulated by numerous, superficial and deep, yellow deposits, varying in size from a pin's head to a small pea. Splenic tissue around these deposits firmer than elsewhere. Liver and kidneys normal.

The salient points of the above case are, the cheesy degeneration of the cervical lymphatics, some of which were ulcerated and discharging externally, the embolic patches in the spleen, and the acute lobular pneumonia.

III. Thomas G., æt. 35, a native of Ireland, and of intemperate habits, having no hereditary taint, and previously healthy, in Dec., 1869, after having been employed in the water lifting lumber for two months, noticed his legs becoming stiff and painful, but not swollen. He had palpitation of the heart, stitches in his side, and a short dry cough. The stitches in side continued, as well as the cough, which after five months became attended with copious purulent expectoration and a little blood.

October 25, 1870, the following note was taken. He denies ever having had a chancre, but says that one year ago spots appeared on the skin, the earth-colored stains of which remain; he has slight general adenitis; sternal tenderness; his throat is congested and the seat of some white cicatrices; he has stinging, burning pains in palms of hands and soles of feet; and *had* severe nocturnal pain in legs and darting pains in the forehead with flashes of light in the eyes, which have been greatly relieved by a fortnight's course of iodide of potassium. He is emaciated and feeble. The nails are clubbed. Heart palpitates on exertion, but is not increased in size nor the seat of any murmur. Lungs: percussion clearness is impaired all over the chest, and the respiration is harsh, with many large and small moist rales; over right lower lobe the percussion is dull, respiration feeble, and movements of chest wall diminished.

Dec. 13. The emaciation, prostration, and physical signs have been gradually increasing, within the past few days the abdomen has become distended both with gas and with serous effusion, and to-day death occurred.

Autopsy; 5 hours after death.

Heart: right side filled with soft, dark clots. The whole organ is small, pale and flabby; the connective tissue around its base is distended with serum, and of an amber color.

Pleural cavities : right, entirely obliterated by firm adhesions; left, free in portions.

Lungs : at apex of right, and at bases of both, are small portions of pulmonary tissue permeable to air; even these portions, however, are not free from a nodular deposit. All the remaining portions are firm, of a specific gravity equaling or exceeding that of water, of a grayish-green color, and scattered over with white granulations, which are clustered somewhat after the manner of grapes on their stem. In the centre of many of these granulations can be seen a minute point, either dark or bloody. By careful manipulation, a bristle can be introduced at these points and passed along the vessel, which, by tracing downward to the heart, is found to be a branch of the pulmonary artery. The lower lobe of right lung is greatly diminished in size by the encroachment of the solidified and enlarged upper lobe; the false membranes between it and diaphragm, and its own tissue, are the seat of softening, chessy masses. The apex of the left lung is filled with communicating cavities.

Bronchial glands : enlarged and firm.

Peritoneum : smooth and shining, its cavity contains one gallon of clear, straw-colored liquid, which, in a few minutes after removal, gelatinizes into large, soft clots.

Liver : normal in size, dark in color; capsule on upper surface of right lobe is white and thickened.

Spleen : normal in size, its capsule thickened.

From the history given by the patient, and the symptoms presented while under observation, little room is left for doubt that he was the subject of syphilis, and in connection with this we have seen that he had grayish-green lobular pneumonic solidifications, in some locations softening and forming cavities. The character of the granulations found scattered throughout the pneumonic tissue is worthy of being noticed here. From their gross appearance, and the fact that they clustered on and around minute arterial branches, the microscopical characters likewise supporting the view, the writer feels no hesitancy in pronouncing them tuberculous granulations; but from their insignificance of number as compared to the extensive inflammatory lesions, and their pearly freshness and undegeneracy, he feels equally justified in viewing them as a secondary phenomenon, a complication of the phthisis.

IV. Emma S., æt. 18, of delicate frame, was born in a brothel, and at the age of 13 was forced by her mother into the same business that she herself was following.

In June, 1868, she suffered from a chancre, gonorrhœa and venereal warts; and in April, 1869, had the same troubles. In January, 1870, she renewed her gonorrhœa, and this had not subsided when she came under observation on the 1st of April,

1870. At this time her hair was thin and dry, the pharynx was congested, the supra-condyloid and post-cervical glands were enlarged, the lower piece of the sternum was tender, and she gave a history of repeated eruptions on the skin, and attacks of sore throat.

In September, 1869, she first noticed a cough, with pain in the chest, which has steadily grown worse. Feb. 1870, she commenced to expectorate freely. May 6, 1870.—All over the upper lobe of right lung the percussion is dull, the respiration is cavernous, and there are gurgling rales. Lower lobe of the same lung: dullness on percussion, harsh respiration, prolonged expiration, and large moist rales. Left side: clear on percussion, respiration puerile; at very apex of lung are a few moist crackles. She is weak, emaciated, has hectic fever, and is greatly racked and worried by her cough. On the 28th of the following August she died. At the *autopsy* the right lung was found reduced to nothing but a honey-comb of various-sized cavities. Left upper lobe the seat of many tuberculous deposits, and some cavities. Left lower lobe solidified, containing some tuberculous deposits. *No part of the lungs would float in water.* Pleuritic adhesions were abundant; the diaphragm was also adherent to the liver, and the false membranes were the seat of some miliary tubercles.

The history of this poor girl is duplicated in the writer's memory by at least half a dozen similar ones. Girls, thrown early on the town, have burned out their young vitality by unendurable excesses, have contracted syphilis, and before reaching the age of twenty-five have paid the death penalty by phthisis of rapid course. That the syphilis has borne a hand in the origin and progress of their ultimate destroyer, he feels that he cannot doubt,—still, a hand that is, perhaps, secondary in efficiency as compared with the necessary conditions of their lives, the excitement, dissipation, and excesses, the weariness of body, dejection of spirits, and anguish of soul to which they are daily subjected.

Need more be said, or more cases quoted, to make the proposition good, that *secondary syphilis predisposes the patient to acute inflammation of the respiratory organs*? Of the acute pleurisies there is no necessity of a fuller mention at present; not so the acute bronchitis, and the acute phthisis as connected with the acute bronchitis. The two cases of bronchitis in the table were of the larger tubes. Jane Thompson, (Case I.) had capillary bronchitis; and in more than one other case, of which we have no note preserved, the same tendency of bronchitis, occurring in syphilitics, to run into the finer tubes, has been noticed. In some cases, such as this, the effused products not being absorbed, are endowed with sufficient vitality to remain as firm, organized masses, becoming converted into solidified lobules. In another class of cases the effusion is that of an asthenic, a catarrhal pneumonia,

and has no tendency to absorption, while it is only capable of very imperfect organization: as examples, Cases III and IV may be mentioned. The non-progressive and feebly vitalized lymph begins to degenerate almost as soon as fairly effused; in its degeneration and destruction the original elements of the lung tissue are involved, and a proper example of acute phthisis is the result. Be it observed that *post-mortem* few or no miliary tubercles may be found, and these few secondary, the most prominent feature being the cheesy masses, called tubercle by the older pathologists, but now deprived of the title, and viewed as a lymph of asthenia and of low vitality; by some called scrofulous lymph. From this disease, characterized by the rapid melting away of pulmonary structure, nothing can be more widely distinct than acute miliary tuberculosis of the lungs, in which death takes place by a direct blow at the life force before softening and local tissue destruction have scarcely had a chance to commence. It appears to the writer that not even in the chronic forms of phthisis is the distinction between tuberculous and non-tuberculous so well marked as here, for the secondary deposition of miliary tubercles around a chronic pneumonia, will often obscure the true nature of the primary lesion. But in acute tuberculosis, death, as a rule, occurs before softening has had time to commence; while in the inflammatory effusions which end in acute destructive phthisis, the depositions are copious instead of miliary, and their *immediate* tendency is to perish and liquefy, in their death implicating and destroying with great rapidity all the infiltrated and adjacent pulmonary tissue, so that after a few weeks' course a *post-mortem* examination will reveal the former site of the lungs occupied by a honey-comb of cavities, the tuberculæ of which are themselves infiltrated and softening to such an extent that perhaps not a single normal air vesicle can be found.

Again, it is not to be understood that any exclusive or essential causative connection is claimed between secondary syphilis and acute pneumonic phthisis; their occasional, or even frequent, co-existence and apparent relationship are merely pointed out. The depressing influence of syphilis, together with an increased tendency, during its secondary stage, of the lungs to be attacked by capillary bronchitis and catarrhal pneumonia, is the nearest to a causal agency that can now be claimed for the disease. These catarrhal inflammations are essentially asthenic, and leave products in the air vesicles which are both incapable of absorption and of more than a very low organization; consequently they soften, destroy the adjacent structures, and become very properly classed under the head of phthisis of the lungs. The appearances found *post-mortem* in the lungs of Jane Thompson, were those more or less common to capillary bronchitis and lobular pneumonia. From her history, and the physical signs observed, undoubtedly her

trouble was originally capillary bronchitis, and this became subsequently the cause of the pneumonic—if you please—solidifications of the pulmonary lobules; to perplex ourselves further as to whether we shall use one name or the other in the classification of the disease with its lesions, would be useless waste of ink in drawing lines of distinction where no material difference exists.

Whilst it is not the purpose of the writer to make any dogmatical statements, it may be readily seen that the first two of the questions which were propounded at the outset of this essay have in his mind met with answers as follows:

1. Syphilis is quite a frequent cause of phthisis.
2. The form so produced is usually the pneumonic.

While the other two questions are included with less propriety in the consideration of the subject allotted for the prize essay, and therefore can claim only a brief notice, they are of such interest that the opportunity to say a few words concerning them will not be allowed to pass unimproved.

To the question as to whether tuberculosis and scrofulosis are closely allied, or even identical, there seems to be at present but the possibility of one answer. All the later pathologists have become convinced of the frequent succession of localized, and at times general, tuberculosis to scrofulous, cheesy degeneration. This opinion is based on the fact that tuberculosis of the internal organs has again and again been produced, under the observation of such men as Hoffmann, Lebert, Cohnheim, and others of the same stamp, by inoculation with cheesy detritus; and also by the frequent occurrence of miliary tubercles in the vicinity of cheesy depots in the lungs, lymphatic glands, etc.

Of those tubercles which are secondary to cheesy inflammations Rindfleisch speaks as follows: "The confusion of names and ideas which this distinction (between miliary tubercles and cheesy masses,) already founded by Reinhard, but strictly carried out by Virchow, has occasioned, is not decreased by the circumstance that in fact, cheesy inflammation and miliary tuberculosis very commonly occur side by side. The latest times have also brought very interesting disclosures on this point; namely, according to a series of investigations, which were started by Villemain, continued by Klebs and others, and brought to a certain conclusion by Cohnheim, the introduction of 'cheesy detritus' into the juices of an individual results in the occurrence of 'miliary tuberculosis.' It is, therefore, a matter of indifference whether the cheesy material is transferred by inoculation, or whether it arises in the organism itself. Accordingly, the smallest particles of the cheesy detritus would have to be regarded as a poison, which by direct irritation occasions the tuberculous new formation of certain constituents of the tissues. This much is certain, that the formation of tubercle is the expression of a commenced dyscrasia, a corrup-

tion of the juices, which in many cases diffuses itself from a point throughout the organism; while in others the dyscrasia is probably (?) already congenital."

That secondary miliary tubercles are produced by the absorption of cheesy particles, and their subsequent arrest in the form of emboli, seems, at first sight, the most probable explanation of the *modus operandi* of the cause under consideration: but such a theory is overthrown by the absence of occlusion of the vessels at the site of the tubercle, except rarely, and then as the result, not of an embolus, but from excessive tumefaction of the vascular walls.

That the infection, in some instances, is in no way conveyed by the vascular system, but is strictly a local contamination, is conclusively proved by a case related by Rindfleisch, in which a cheesy depot existed in one lung. Around this depot in the lung tissue was a brood of miliary tubercles. On the pulmonary pleura covering it there was a dense pavement of tubercles; and on the *costal pleura, opposing the pavement, miliary tubercles were scattered, but in more moderate numbers.*

This question, then, has answered itself, that there are certain differences of structure and progress between scrofulous lymph, or the "cheesy masses," and miliary tubercle, which forbid that they should be considered identical; while certain relationships of co-existence and causation force us to believe them to be very closely allied.

The same reasons which show tuberculosis to be allied to scrofula, with the same cogency prove it to be allied to all the other diseases which carry cheesy degeneration in their train. Let us mention typhoid fever with its cheesy depositions in the solitary follicles and Peyer's patches of the intestines, and the not infrequent cheesy degeneration of the enlarged mesenteric glands. Too often does tuberculosis of the lungs arise as a sequel of the fever, directly dependent for its origin on the cheesy detritus just mentioned.

Now, syphilis in its third stage is ever manifesting itself by gummy tumors which possess a strong inherent tendency to exhibit the cheesy metamorphosis, and when once that metamorphosis has occurred, the resemblance to the cheesy masses of scrofula is perfect, and they are equally liable to become the leaven from which miliary tubercles are propagated in various parts of the body. This, then, is the connection which syphilis seems to the writer to have with scrofula and tuberculosis. A relation, be it observed, which only distinctly shows itself in the tertiary stage of syphilis. A stage in which every thinking mind must have reflected on the exceedingly uncertain boundary which exists between the manifestations of syphilis and scrofula. While in hereditary syphilis we are sure still graver doubts as to the propriety of attempting to separate the two diseases have arisen; and

the sins of the parent have been traced in the snuffling nose or enlarged lymphatic glands of the wasted scrofulous child, almost as certainly as in the palmar and plantar pemphigus of early infancy.

The following extracts from a case published in the *Boston Medical and Surgical Journal*, for July 18, 1872, illustrate well the coexistence and interdependence of the phenomena of the diseases under consideration.

G. F., a colored laborer, having six years previously contracted the primary sore, was admitted to the Boston City Hospital. At the date of admission there was a sinus over the junction of coronal and sagittal sutures, discharging thin pus. This sinus led to necrosed bone, of which three pieces, each the size of a split pea, were removed. In the beginning of the second month of treatment a large cold abscess over the biceps of the arm was opened. A month later the right pleural cavity was found to be filled with liquid, giving rise to harassing cough, and sleeplessness from dyspnœa. The pulse continued above 100, and the appetite was greatly impaired. After a month the patient was convalescent, so that he walked about the ward. Soon, however, there followed extreme debility and diarrhœa; and the pulse rose to 136. The patient progressively sank, and at the end of four months from the date of entrance to hospital, died.

At the *autopsy* the following appearances were observed: In the *skull*, to the left of the median line, and a little anterior to the vertex, was an opening, one inch long by three-fourths of an inch wide, through which the dura mater could be seen. The dura mater was thickened, and slightly adherent to the pia mater, and the longitudinal sinus was somewhat constricted by this thickening.

The *tenth rib*, near its sternal end, was enlarged and necrosed, while in the adjacent tissue there was a deposit of *cheesy material*, in size about equal to a pigeon's egg. The articulating surface of the head of the right humerus was *necrosed*, as also were the glenoid cavity and acromion process of the scapula.

Both *lungs* were adherent to the thoracic walls, and in each pleural cavity there was a considerable quantity of serum. Each lung showed *scattered* deposits of *miliary tubercle*. Some of the bronchial glands had undergone *caseous degeneration*.

The *pericardium* was adherent in all its extent, and, with the deposit of lymph and false membrane, measured from one-fourth to one-half an inch in thickness. The muscular structure of the heart was thin. The valves were normal.

The *thyroid* and *thymus glands* were hypertrophied; each lobe of the latter was an inch and three-fourths long, and showed *cheesy degeneration*.

The *liver* presented two large masses of *cheesy metamorphosis*

near its surface, and two of smaller size internally. Small, puckered spots on its surface indicated the location of former disease.

The *spleen* contained a great number of large and small, deep and superficial, spots of *caseous degeneration*. Both *kidneys* showed signs of commencing parenchymatous lesion. The *mesenteric glands* were enlarged. In the small intestine there were several small ulcerations, and near the cœcum an ulcer of larger size. The solitary glands in the immediate vicinity of the ulcerations contained *cheesy deposits*.

Another case may be given from the writer's note book. Andrew S. died in 1870, after having for years been reputed to be suffering from syphilis. The basis for such repute seems to have been a sound one, consisting in blotches on the face, a severe and protracted sore throat, an offensive breath, and a worn and haggard appearance.

In Jan., 1872, the following note was made as to the condition of a son, 14 years old. He appears to have been unhealthy from birth, and for the last two years has had lymphatic enlargements under the jaw, above the clavicles, and behind the ears, which have opened and remain open as large ulcers with smooth, red and glazed bottoms and undermined edges, or have healed and left white, puckered cicatrices. From one ear there has been for the same length of time a free discharge of pus. His eyes have occasionally been crossed. At the date of the note he was suffering with fever, a violent pain in the head, and delirium. The forehead was wrinkled, and the patient constantly moaned in such a way as to direct attention to the head. Although there was no paralysis of the eyes, tongue, or other part of the body, nor any irregularity of the pupils, the symptoms were such as to warrant the supposition of sub-acute meningitis, very possibly induced by incipient caries of the bones at the base of skull. Under the use of iodine and good food, however, he improved greatly, and at the end of ten months his intellect is as clear as before the attack, and all the other brain symptoms have subsided.

Another son of the same father, seven years old, is almost blind from the presence of leucomata on each cornea, left by the healing of obstinate ulcers. While, beginning with the sixth dorsal vertebra and extending to the tenth, there is a well-marked antero-posterior curvature of the spine.

Such examples might be almost indefinitely multiplied. Thus, Dr. Parry reports in the *Medical Times*, June 1, 1871, the autopsy of a colored boy of seven years. Cheesy masses, which appear to have been degenerated syphilitic gummata, were found in the spleen and on the inside and outside of the cranium. The bones of base skull were carious. The bodies of the third and fourth dorsal vertebræ were entirely destroyed by caries and their place filled

by cheesy material. The cervical lymphatic glands were enlarged, the bronchial glands had grown to the size of a lemon, and were rapidly undergoing the cheesy metamorphosis. In the lungs, the spleen, and the membranes of the brain, were miliary tubercules.

That the views herein advocated are not too young to be true, is conclusively shown by the quotation given below from Benjamin Bell's work on the "Venereal." He says: "Where evident symptoms of scrofula have previously taken place, or where that disease obviously exists at the time, there is no great difficulty of convincing patients of any symptom of Lues Venerea with which they are attacked, being likely to partake of it; but they should also know that during the continuance of Lues Venerea, symptoms of scrofula frequently appear when that disease was not previously suspected to exist, and which might otherwise have never taken place. Of this I have met with many instances, where a scrofulous taint, which had till then remained concealed, broke out at once with much more violence on the system being attacked with Lues Venerea."

Niemeyer in his "Clinical Lectures on Pulmonary Phthisis," has said that "tuberculosis, in most cases, is a secondary disease, arising in a manner not known to us through the influence of caseous morbid products on the organism." The usual seat of such caseous morbid products is found to be in the lungs during the degeneration of chronic inflammatory deposits. In other cases we have to look for the *fons et origo* in the lymphatic glands, in carious bone, or, perhaps, in an exudation on the surface of the pleura or peritoneum.

When Niemeyer says that the worst thing that can happen to a phthisical patient is to become tuberculous, he utters the belief of all modern pathologists, and at the same time throws a strong light on the fact that tuberculosis is so often secondary. Why does it not occur in every case of phthisis which is in the stage of cheesy degeneration, as well as with every case of scrofulous lymphatics, and, indeed, whenever a cheesy nidus is found in any organ or structure of the body? It has been suggested, with a show of reason, that the increased growth of connective tissue around the caseous matter encysts it and prevents its exit. And this view is sustained by the fact, recognized since the time of Laennec, that a deposition of miliary tubercles often occurs a short time before death, when by reason of that softening and destruction of the lung which is very apt to occur in the last stages of the disease, the protecting barrier may be supposed to be broken down.

But what can be said of such an assertion as that recently made by Dr. Alfred Meadows, viz: that tuberculosis and scrofula are not identical, but in many respects *absolutely* dissimilar and to some extent *even antagonistic*? What, indeed, but that his experience

must then have been widely different from that of the majority of medical practitioners, and with them the writer.

As any essay is manifestly more directly valuable to the reader if it point its arguments by showing how a practical application of its theories may be made; and as this is all the more true in Medicine because of the too frequent doubts in which the practitioner is left to grovel after the proper and rational mode of treatment, this humble attempt to set forth some of the truths of the pathology of the broad subject considered shall be closed by one or two brief suggestions as to treatment.

It is admitted on all hands that the natural tendency of tubercle is towards death, not only the local death of the part in which the tubercle is located, but finally the death of the individual who is its unfortunate bearer. So long as tuberculosis was supposed to be capable of being produced *only* by the tuberculous diathesis, all attempts directed to the prevention of the deposition were necessarily considered as futile; while those who, like Dr. Meadows, think the scrofulous diathesis to be antagonistic to the tuberculous, if consistent, would encourage the former to prevent the latter. But, if tuberculosis may be caused by some malign influence which cheesy deposits are capable of exerting on the system, then riddance of the system of these foci of disease becomes our rational course. And when they are situated near the exterior of the body, as in the superficial lymphatics, or are associated with carious bone, what means is equal to the well-directed knife for their prompt removal? On this principle rests the recommendation which has recently been made that chronic lymphatic tumors, instead of being trusted to the slow efforts of nature at absorption, should be extirpated whenever and wherever such a proceeding is practicable. And on the same principle the success attained in restoring to health those afflicted with caries of the head of the femur, and of other bones, by a judiciously early excision, is explained; rather than as formerly allowing nature to work her tedious way towards a cure, the attainment of which would probably never be reached, because either the patient would succumb to secondary tuberculosis, or to amyloid degeneration induced by the protracted suppuration, before the desired cure could be attained. It has been a common observation that scrofulous children are safer from the supervention of pulmonary phthisis if their cervical lymphatic tumors suppurate and remain as open sinuses. And simply because the caseous material is thus freely cast out of the body, instead of being pent up and allowed full opportunity to contaminate the system. On the fact of the beneficial influence of *open* lymphomata over the life and health of the scrofulous sufferer, is probably based the opinion of *antagonism* between scrofula and tuberculosis; while in reality it is a strong argument on the other side, because the scrofulous pro-

ducts are thus cast out of the organism and prevented from working its general contamination.

In an essay on Phthisis presented to a Society, the climate of whose State is held in so high repute as is that of Minnesota, it might naturally be expected that climatic cure would have been the theme. Such a theme was avoided because it occurs to the writer that enough words have already been spilled in lauding our climate. Facts must now be collected, and they can alone convince the world that what has been already said and written has been put forth in good faith.

No one conversant with the exhilarating, vitalizing character of Minnesota air can for a moment doubt that it is capable of rescuing from the grave the incipient consumptive, or him who is about to become a consumptive. Let the last paragraph of this paper, then, point the lesson that here may also be found a balm to heal the sorrows of the one who is reaping the late fruits of early transgression, and to mitigate the penalty of the child on whose innocent head is being visited the sin of the father.—*Northwestern Med. & Surg. Journal.*

Clinical Lecture on Bed-Sores. By SIR JAMES PAGET, F.R.S., etc.,
Lecturer on Clinical Surgery at St. Bartholomew's Hospital.

Bed-sores may be defined as the sloughing and mortification or death of a part produced by pressure. When we press on any part of our bodies for a moment, on the removal of the pressure the part is quite white, owing to the blood having been pressed out. The color immediately returns, however. In bed-sores, the pressure is continual, the blood is driven away, nourishment ceases, and death of the part takes place. There are three different forerunners of bed-sores. 1. Inflammation; the prominent parts, *e.g.*, the sacrum, posterior superior spine of the ilium, the trochanters, and the ends of the spines of the vertebræ, are seen to be red. 2. They may be simply pale and white. 3. They may be purple or yellow, from the extravasation of blood or bloody fluid. Sloughing follows these in the skin and subcutaneous tissue and fat. These latter die before the skin, sloughing proceeds faster in them, and so when the skin comes away, the place formerly occupied by these tissues is empty. Then the deeper parts die—muscles, bone, until sometimes the spinal cord itself is exposed. Now, bed-sores occur in those who are absolutely at rest. If there is the slightest movement from one side to the other, bed-sores may be averted. A man with simple fracture of the femur, previously healthy, can move himself slightly from side to side, and does so instinctively.

No man with simple fracture of femur ought to rise from his bed with a bed-sore. It would be the consequence of gross neglect if he did. In the case of those whose lower limbs are paralyzed, there can be no motion whatever, and so they are liable to bed-sores.

The time when bed-sores begin to make their appearance is about fourteen days—that is, in the case of a healthy man who is absolutely unmoved. They will, of course, be accelerated by dirt, if his urine and fæces are not constantly removed. There are certain cases which are specially favorable for bed-sores: the old, especially those with fractured neck of femur, and those that are the fattest and heaviest, and most likely to become œdematous. Among ordinary persons, those that are the thinnest. When, as is commonly said, their bones are ready to start through their skin, the amount of tissues between the skin and projecting point of bone is so small that it soon, as it were, wears away, and bed-sores ensue. Those again in a state of fever, such as the lowest kinds of typhus, can scarcely by any means be saved from them. Their whole system is so poor and degenerated that sloughing takes place without any pressure at all; and you may see the ends of the nose, ears, etc., sloughing from the bad supply of blood. Continuous hectic fever is a state in which they appear, being an exception to the general class of consumptive patients, who, though they may lie in bed for months, rarely have bed-sores. They manage to move slightly and thus avert them. Pyæmia is another source, and is illustrated by a case in the Hospital: a man who was admitted with phlegmonous erysipelas of a limb and was treated for it. On account of some misconduct he was discharged: after a while he came back with pyæmia and an enormous bed-sore. His skin is very pallid and soft, and does not properly discharge its functions, and there is every reason to believe that every other organ of his body is in a similar state. His lungs may be auscultated and his urine examined, and nothing at all found wrong with them, and yet I venture to state that neither the lungs nor kidneys are performing their functions as they ought. A pyæmic subject, being so ill-nourished, is especially liable to bed-sores. Intense fever is also a productive agent. The man whose thigh was amputated a short time since, had a most acute and intense attack of fever, and large bed-sores appeared. Now the fever is gone, the local disease is removed, and the bed-sores are healing very rapidly. The risk of bed-sores in the old with fractured neck of femur is chiefly in the first week, therefore treatment with a view to preventing them should commence immediately the patient takes to bed. After the first week the risk is not nearly so great. There is one peculiar class in which bed-sores rapidly appear, and that is rapid destruction with inflammation of spinal marrow. If in a fracture of the spine, a portion of the spinal cord below the

seat of fracture be irritated and inflamed, sloughing will ensue in those parts to which the nerves given off below the irritated part proceed. And this will take place in two or three days. Sir B. Brodie mentions a case in which a large slough formed on the heel in twenty-four hours. No doubt there were other causes for this. Two or three days is the usual time. The same takes place in diseases of the spinal cord, especially in acute pyelitis. There is not so much risk of sloughing in parts deprived of nerve force as in parts whose nerve force is irritated and disturbed.

Now let us look at the means of preventing bed-sores, for nine-tenths of your care must be devoted to this; for if once they appear, it is very difficult to get rid of them.

First of all, look to the bed. Good bed-making is an indispensable thing in the prevention of bed-sores. Several beds have been made especially for this purpose, of which the best is Dr. Arnott's. It consists of a chest full of water; on the top of this is a water-proof sheet, and over this an ordinary sheet on which the patient is laid. Here the patient is absolutely floating on water. The waterproof sheet is not drawn tight, but adapts itself to every part of the patient. A patient might lie on this for years and never have a bed-sore. Inferior to this, but very good, is Hooper's bed. Here the waterproof on the bed is tight. They will avert bed-sores for a long time, but I should not like to say that a patient would never get a bed-sore on them. But you cannot have these everywhere; you cannot take them about to every one who may need them, and there are many cases in which they cannot be used at all, as in cases of fractured neck of femur, acute inflammation of knee-joint, and many others.

In ordinary beds the best thing is an ordinary firm mattress of horse-hair; and it must rest on boards. Cords are the worst possible things, as after twenty-four hours or so they give under the weight of the patient, and the most prominent parts are pressed upon. Iron gives after two or three weeks. Not so boards. It must be quite level. Under the horse-hair it is better, if possible, to have a spring or straw mattress. Feather-beds and the like are, of course, to be utterly condemned. If possible, have two beds, so that you may lift the patient into the other when it wants making. You thus avoid making beds under him.

The next thing is to harden the skin. The best application for this is a solution of one part of nitrous ether in three of water. If the back is frequently washed with this, bed-sores may be completely averted. There is in the Hospital a man paralyzed in his lower limbs; he has been in this state for ten months. By the good nursing of the sister of his ward bed-sores have been kept away. This application of nitrous ether has been used: solution of one grain of perchloride of mercury, with two drachms of nitrous ether, and six ounces of water, is another good thing. Whis-

ky is used in Scotland, as is brandy sometimes in England, but these are not so good. In Germany they use a solution of tannic acid. When the parts look as if they were going to slough, these spirit applications may be too strong, and then a solution of gutta percha in chloroform is very useful. Next we have to prevent pressure on those parts where bed-sores are likely to occur. These are the middle line of the sacrum, after that, in thin persons, the posterior superior spines of the ilium and the sacro-iliac articulations, then the trochanters of the femur. The chief thing is a frequent change of posture. If a patient can lie in four different positions during the day, bed-sores may be prevented. He may lie on his back, each side, and on his face. Of course, you could not make a stout person lie on his face; he would simply suffocate.

This change prevents the gravitation of the blood. This may easily be seen by looking at the back of a subject in the post-mortem room. The back is quite red from this cause.

When patients lie on their backs they may be saved for a time by dividing a mattress and leaving a space of six inches between the halves. You may thus save the sacrum, which will have no pressure on it. The case before referred to was treated so, but sores came on the ilium and trochanters.

Large cushions made of amadou in the shape of a horse shoe are very good. Isinglass plaster or felt water-pillows and pads of cotton-wool may also be used with advantage. In speaking of the mode of curing bed-sores, already formed, let me remind you to continue your preventive treatment just as if there were none, lest they come in other parts.

During the sloughing there is nothing better than a poultice of equal parts of linseed and bread, and enough charcoal to have a deodorizing effect. Carrot and turnip poultices are also deodorizing, but they are not so good as the first. The poultice is best spread on ordinary tow. When spread on linen, etc., folds are liable to form, and if the patient is on these they promote the bed-sore. When slough begins to separate, the resin or other stimulating ointment should be spread on the surface of the poultice.

When the slough has separated, the sore should be dressed with resin ointment or Peruvian balsam, or equal parts of these, in the following manner: little bits of cotton wool should be slightly spread with the ointment, and put into the sore until it is quite full. They thus make an equable soft surface for the sore. These are the chief local means for curing bed-sores. As regards internal treatment, do not stimulate. Let the diet be gentle but good; plenty of milk and bread; little or no meat, and a small quantity of wine.—*The Students' Journal.*

The Death of Baron Liebig. By PROFESSOR CHARLES A. JOY.

The death of Baron Liebig will create a profound sensation throughout the civilized world. No scientific man was better known, and none had rendered a greater service to the popularization of knowledge than he. Wherever books are read and journals are printed, his name has become familiar as a household word, and his opinion has always been regarded as worthy of the highest authority. The part played by this distinguished chemist is worthy of something more than a passing notice, and I propose to address myself to the task of giving some account of what he has done.

Justus Liebig was born in Darmstadt, May 13, 1803. His parents were poor, and, if it had not been for Government aid, he could never have sustained himself at school, but would have been compelled to learn a trade. The boy early developed a taste for natural history, and his father encouraged this indication by permitting him to study under the direction of a pharmacist in a neighboring town, but a desire to obtain a more thorough education, prompted young Liebig to apply to the Minister of Instruction for assistance from the public fund. I have heard him relate his experience with this high official. When he applied at the palace, it was only after repeated efforts that he was permitted an audience, and, at the first interview, the minister declined to grant the request; nothing daunted, he kept on repeating his calls until the officer, in self-defense, was compelled to put the boy on the stipend. In this way Liebig gained admittance to the Gymnasium, and was able to go through the preparatory course for admission to the University. While at the Gymnasium, he and another boy fell into considerable discredit with the director for presuming to develop tastes for something besides the classics. The director was in the habit of asking the boys what they intended to be if they lived to grow up, and when he came to Liebig, he invariably received the answer: "I intend to be a chemist;" whereupon the pedagogue would say, "You stupid boy, there is no such pursuit as chemist;" to the other lad, who desired to be a musician, he could hardly give a similar answer, although he assigned to both of them places at the foot of the roll. Liebig told me that many years afterwards he came across his companion in disgrace, and found him to be the most popular musical director in the city of Vienna.

Having completed the course at the Gymnasium, Liebig studied at Bonn and Erlangen, and subsequently received the degree of Doctor of Philosophy and Doctor of Medicine. In the early part of 1823, when only twenty years of age, he went to Paris, hoping to obtain access to the laboratory of Gay-Lussac (born 1778, died 1850); it was a hazardous thing for a poor student to undertake,

but he felt that work was in him if he could secure an opportunity to bring it out. The early stages of his career in Paris were the most trying of his life. Without money, without patronage, with nothing but youth and a resolute will to sustain him, his case appeared to be forlorn in the extreme, and he was wont to say that his whole career might have been cut short, and his name never have become known, if it had not been for the fortunate acquaintance of Alexander Von Humboldt, formed at a meeting of the French Institute. Gay-Lussac was much interested in the subject of cyanogen, and young Liebig had prepared compounds analogous to the cyanides, in which he thought he had discovered a new acid. One of the members of the Institute promised to read his paper on the subject and exhibit the specimens, but, like the Minister of Instruction at Darmstadt, it was only after repeated warnings and entreaties that he consented to keep his engagement. The subject was finally presented, and attracted considerable notice. After the adjournment, a gentleman whom Liebig did not know, came up to the table to speak to him and to inquire into his history, and, being pleased with his intelligence and modest deportment, invited him to dinner.

Young Liebig was too much embarrassed to ask the name of his host, and as he left the house inquired of the doorkeeper who that gentleman was. The doorkeeper replied that a good many persons had passed out, and he could not say to which particular one he referred; moreover, as Alexander Von Humboldt had just returned to Paris from a long journey, very few persons were aware of his presence in the city. Liebig could not keep his appointment with Humboldt, as he did not know where to go, but as soon as he learned the name of his benefactor he at once called on him, and from this acquaintance with Humboldt he dates the commencement of his prosperity. Upon Humboldt's recommendation, Gay-Lussac received Liebig as a pupil in his laboratory, and the two remained ever afterwards firm friends. The fame thus early acquired by Liebig soon reached his native land, and he was invited in 1824, at the early age of twenty-one, to accept the chair of chemistry at the University of Giessen. This university was destined to become the principal field of his usefulness and renown. It was here that he established his celebrated school of chemistry, and it was in the laboratory, built under his direction, that he made the researches which have so greatly enriched our knowledge and been of such vast importance to the well-being of mankind. At this early period there was no school for chemistry in the world. There were private laboratories where a few favored students could obtain instruction, the most celebrated of which was in Sweden, under the direction of Berzelius, but such an institution as a school for chemistry was unknown until founded by Liebig. If Liebig had conferred no other benefit upon the world than this

one act of establishing a systematic course of instruction in chemistry, it would have been sufficient to establish his claim to a prominent place on the list of benefactors of the race. The school was a means to an end, and enabled him to carry out the investigations and researches which have proved of so much importance to the progress of the science. The laboratory of Giessen became a hive of busy workers. Hoffmann, Strecker, Will, Fesenius, Whitney, Gibbs, Horsford, and a host of others, here laid the foundations of their knowledge and subsequent fame. The Giessen school served as a model for similar institutions all over the world, and the way having been once pointed out, it was rapidly followed and considerably improved as the years rolled by. Plans of the laboratory were engraved to supply the constant demand for them, and architects were sent from many countries to study the new arrangements preparatory to their construction, at distant universities and schools. Although numerous modifications have been suggested by experience, yet, upon the whole, the original plan of Liebig has been retained, in a majority of laboratories, with such changes as modifications in the construction of furnaces, the introduction of gas and improvements in apparatus, may have required. There is no question that while laboratory practice was of great value to students, the work accomplished by some of the more advanced scholars was of equal service to Liebig in enabling him to institute numerous researches which it would have been physically impossible for him to accomplish alone. It was sometimes necessary to make a large number of analyses in order to ascertain the accuracy of methods or to prove the correctness of theories, and in the early stages of chemical research, much more of this work was required than at the present time. In the course of time a rich store of observations was accumulated at the Giessen laboratory, which became available to chemists elsewhere, and this supply of material has since been largely added to by other laboratories in various parts of the world.

Liebig's industry in the preparation of original papers and in the publication of books was remarkable. The number of independent articles published in various journals does not vary far from 350, and his books, from his "Introduction to Organic Analysis" down to the last edition of his great work on "Agricultural Chemistry," number about thirty volumes. In addition to this, he did a great deal of editorial work upon Geiger's Handbook, the yearly reports on the progress of chemistry, the annals of chemistry and pharmacy, and the scientific journals of the day.

The great aim of Liebig was to popularize science. To this end, he wrote his famous "Letters on Chemistry," which first appeared as an extra sheet in a weekly newspaper, and were afterwards collected in book form, and translated into every European

language. No letters have been more generally read or have excited greater popular enthusiasm than these. They are perpetually quoted and criticized, and thus their subject matter has been presented in a great variety of shapes, until the views originally held by Liebig have been unconsciously everywhere adopted, although he himself greatly modified some of them, as subsequent research shed new light upon the subject. It has been said that Liebig was very hasty in drawing conclusions from imperfect premises. This may have been in a measure true; and when we consider how numerous these theories were, it is surprising that more of them were not overthrown. If Liebig was hasty in expressing an opinion, he was equally ready to retract when convinced that it was erroneous. I once had a conversation with him on this point, and he spoke of the fear some scientific men had of being caught in a mistake. He considered errors inevitable and inseparable from the accomplishment of any scientific work, and it was on this occasion that he made the oft-quoted remark, "show me the man who makes no mistakes, and I will prove to you that he does nothing." It is easy enough for a scientific man who publishes nothing, but only criticizes others, to escape the charge of committing errors, and for such persons Liebig entertained a wholesome contempt. What he desired, above all things, to know, was the truth, and when he thought he had discovered it, he was anxious to give the benefit of it to the world. It would occupy too much space to undertake to give a history of the work accomplished by this great man. The chief points of it can, however, be compressed into a small compass. He pointed out the way to conduct the analysis of organic bodies, and to establish for them rational formulas. In conjunction with Woehler he accomplished the synthesis of organic bodies, and thus did what Berzelius pronounced to be impossible. He introduced chemistry into the study of physiology, and thus created a revolution in that branch of science, and in the department of agriculture did more to place that pursuit upon a scientific basis than any man who had preceded him.

Pharmacy, physiology, agricultural and synthetical chemistry, owe a tremendous debt of gratitude to the illustrious Liebig. After devoting nearly thirty years unremittingly to the Giessen school, Liebig received a call from the King of Bavaria to go to Munich. In 1852, on the occasion of a visit I made to him, in company with Professor Henry Rose, I found him engaged in packing up his papers, preparatory to removal to Munich. His favorite pupil, Professor Hoffmann, now in Berlin, was assisting him in arranging his letters, and on the occasion of our visit Liebig read to us a number of letters he had received from Berzelius, which showed the sincere respect the great Swedish chemist entertained for the man who had not been his pupil, but whom he looked upon

as a most worthy colleague. Liebig subsequently accompanied us to his laboratory, where he exhibited to Rose a number of delicate tests he had just discovered. Liebig was very loth to leave Giessen. The inhabitants had shown their appreciation of his worth by presenting him a valuable house and garden, and it was here that his children were born and his fame as a chemist had been established. The necessity for such rest as could only be attained by a change of residence was, however, fully impressed upon him, and he decided to accept the invitation of the King of Bavaria. After going to Munich, Liebig only received such pupils as could aid him in his researches. The work that chiefly occupied him, was a careful revision of his book on Agricultural Chemistry, a controversy with Pasteur on the subject of fermentation, and the introduction of extract of beef, as a cheap food for the poor. A desire to benefit his fellowmen characterized the labors of Liebig during the last years of his life. The study of a method of silvering glass was instituted out of a wish to rescue from disease the poor victims of mercury poisoning, who were engaged in the manufacture of quicksilver mirrors. The extract of meat he hoped would secure a cheap and wholesome food for the poor, and furnish an invaluable remedy for invalids and convalescents. Latterly his mind was full of similar schemes of beneficence, and his last publications all look to the dissemination of correct scientific information on the common affairs of life. It ought not to be forgotten, in this connection, that Liebig was the first person in Europe to prepare chloroform, and it was he who discovered the hydrate of chloral—the two great anæsthetic and hypnotic agents now so largely employed to alleviate the sufferings of mankind.

In his personal relations I have always found Liebig to be full of urbanity and hospitality. I am aware that many Germans complained of his imperious and haughty manner, and he was often assailed by disappointed chemists on this score, but to any one really in earnest, he always appeared to me ever ready to lend a helping hand. He was a man who kept up with the literature of the day, and could converse fluently and well on any of the topics likely to be presented in the high circles in which he moved. Every summer he was in the habit of going to some quiet place among the mountains for relaxation, and on these occasions always contrived to make up a whist party of the most distinguished professors in Germany. I once spent a week with one of these parties when it was composed of Liebig, Woehler, Clausius, Schoenbein, and Hans Christian Andersen, and it was pleasant to see men of such renown in their moments of rest and recreation. The liveliest of them all was Schoenbein, but Liebig was equal to any of them in repartee and anecdote. It was on this occasion that Liebig related to me many of the incidents of

his life which are recorded above. The scientific men who were the contemporaries and fellow workers with Liebig, have nearly all passed away. Henry Rose, Mitscherlich, Erdmann, Magnus, Gmelin, Haidinger, Schoenbein, Faraday, Oersted, Pelouze, have ceased their labors, and there remain Woehler, Gustavus Rose, Poggendorff, Mulder, Dumas—not lingering superfluously on the stage, but still actively engaged in the promotion of scientific knowledge.

A new generation is springing up, to whom Liebig has left a legacy of inestimable value in the example he has set of obstacles overcome, of work accomplished, and of benefits rendered to his fellowmen. At the good old age of nearly three score years and ten he has been gathered to his fathers, honored and loved by all who knew him.—*Journal of Applied Chemistry*.

Sanitary Statistics of England. By T. D. CROTHERS, M.D., of Albany, N. Y.

The Registrar-General's annual summary of births, deaths, and the causes of death, for 1872, in London and other large cities of England, contains many suggestive facts, which are very interesting in view of the recent prominence of sanitary science.

The author discusses the social and economical advantages of large cities, as centres of civilization, showing that there are no evidences of deterioration in the inhabitants; but there is a limit to the growth of every city, similar to the growth of organic forms. This limit of extension depends more upon the species than space or time. Some of these limits may depend upon the supply of water, fuel, and food, or security from enemies, or the attractions or want of attractions for business, health, and pleasure. One prominent cause of the limitation of cities in Europe is their unhealthiness. For two centuries London was literally "a city of plagues," and truly called the "grave of the nation." There is a physical limit to the number of people who can live on a given space. But this varies in London, Edinburgh, and on the Continent, where lofty houses, extending up many stories, increase the number of people to a dangerous degree. Happily this system has not prevailed to a great extent. The entire population in England is less than one person to an acre of ground. In twenty of the large towns of the kingdom the population was twenty-nine to the acre. In London it is forty-two per acre. This varies from seven to four hundred and twenty-nine in different districts. The limit of one hundred and fifty seems to have been seldom exceeded during the last ten years, in sections where the population has become denser. In nearly all the sections where the numbers were greater, they

have diminished steadily. The well-established law, that the insalubrity of a place increases with the density of its population, and that fevers generated in crowded dwellings have a tendency to spread among the whole of the population, is true in London. The mortality in different districts varied from fifteen to twenty-nine in one thousand. The author points out the dangers in the outlying districts of London, which are imperfectly supplied with water and proper sewers. Over a million of population are without the proper sewerage area, and from this source London has more cause for fear than from any other.

This is true of many American cities, and is the fertile source of many epidemics and fevers. The author also urges that the municipal rule should include all the suburbs, supplying them with water, sewers, and sanitary supervision, then the mortality would diminish to twenty or less in one thousand. The mortality in London averaged twenty-one during the year. The maxima of mortality were in the coldest and hottest weather—January and August. This law prevailed to a large extent in all the towns of the kingdom. Diarrhœa was the most fatal prevalent disease in London; whooping-cough, small-pox, measles, and fevers, were the next most prevalent and fatal diseases. The deaths from violence have increased largely during the year. This is probably due to the carelessness of street drivers, and reckless disregard of crowds. Deaths from burning have declined unusually. The American reader will be surprised to learn that a very small proportion of violent deaths are from "gun shots." In our larger cities this is the most prevalent cause of violent deaths. The tables of death from fever show that fever matter (Typh) has an independent life of its own, and undergoes periodical developments. A history of thirty years back indicates successive years when fevers have been extremely prevalent and fatal. In 1864 it was epidemic, but in 1872 it had fallen to a low ebb. Three kinds of fever are prevalent over England—typhus, typhoid, and relapsing fever. Typhus has declined rapidly since 1869; typhoid has also declined, only more slowly, and relapsing fever remains about as before. In public institutions one person in every six dies, and this is increasing. In the hospitals more are dying, and fewer in workhouses and prisons. This is significant, and is explained by a late American writer to arise from the imperfect ventilation and the poisonous surroundings of these old hospital buildings, many of them over half a century old. The same writer claims that no hospital building that has been occupied over ten years is a proper place for sick persons. The walls, notwithstanding all fumigation, will retain poisonous fever germs and other dangerous animal matter. Mortality statistics of London, from 1840, indicate about 24 per cent. per one thousand. Divided up into five districts, in some an increase has been noticed, in others it has diminished.

Altogether the mortality has decreased at the rate of from one to one and a half per thousand; considering the steady increase of the population, this is very gratifying. The author says "disappointment may be felt that the mortality has not gone down to twenty per thousand permanently, but the reason is obvious, viz.: the water supply comes from the upper Thames, which drains a populous basin into which much impurity flows, and much of the sewerage is imperfect; these contribute to keep up the mortality. The low death-rate of last year is a favorable omen, yet the sanitary work of London is far from being complete. The mortality in the larger towns and cities of the kingdom is, in the aggregate, much higher. "In three cities where the population is very dense a high rate of mortality followed." "Density raises the mortality through the condensation of impurity; the quantity of air respired being equal in two populations, the quantity of impurity taken in bears a certain proportion to the strength of the noxious mixture. Density of population does not imply necessarily, but it does indicate density of zymotic impurity in most towns, and a resulting high rate of mortality." Increased precautions should follow in proportion to the density, to obviate its evils. The deaths for the year in these towns were over one thousand a week more than the healthy standard. Some of these towns show frightful mortality lists, and all are higher than that of London. One pleasing fact remains to be noted: nearly all the large capital cities of Europe, except in Russia, have a system of observations, recording deaths and fatal disease, by which we are able to make comparisons and trace causes, which the art and science of man may obviate. The great success which sanitary science has achieved in England gives promise of almost perfect immunity from such plagues as typhus, typhoid, diarrhœal affections, diphtheria, etc. If an improved system of ventilation, sewerage and good water diminishes the death-rate in Europe, and its old capital cities, what may we not expect from our young towns and cities, which are yet comparatively free from surface saturation with excreta of man and animals? This subject has a personal interest to all our surroundings, and particularly as we may now remedy these defects in a comparatively easy manner, when in later years the obstacles would be serious and almost insurmountable.—*Philadelphia Reporter*.

On the Use of Dry-Powdered Blood. By DR. DE PASCALE, of Nice.

Several years ago, I published from my experience and medical practice, some observations on the very beneficial effect of warm blood taken the moment when extracted from the calf or ox, killed for general domestic use.

I mentioned at that time the cases of three invalids, not English, suffering from hæmoptysis, in whom tubercles were diagnosed, who derived great benefit from that treatment. The quantity of blood lost by one of the abovementioned invalids was enormous; but his perseverance for two years or more in drinking daily the blood, made him well and healthy. At this present time he is walking about Nice, or attending to the business of his large establishment.

I do not wish to dwell upon the great improvement in my own general health after drinking the warm blood for about a month. One of the English doctors practicing in this place had the opportunity of verifying my improvement, and the experiment which I made, when in a state of general weakness and pallor, in consequence of suffering for many years from malarial fever, taken during the siege of Venice in 1848 and 1849.

Every one knows the history of those barbarians, who were accustomed to drink the blood of their victims at a feast after their battles; and also of those who were supported by the blood of their companions, wrecked in the *Medusa* in 1807; and of others who have been nourished in the desert by the blood of animals.

Dioscorides affirms, in his *De Medicinali Materia*, that animal blood has been used for the purpose of curing diseases; the old women adopted a similar system.

Finding among the English and American residents in Nice an unconquerable repugnance to such a remedy, the name alone having the power of producing nausea, I was obliged to disuse it. But afterwards a dim recollection of the manner in which it was administered by old medical men in my youth, made me adopt the plan of giving it in the form of dry powder.

History also relates that dry-powdered blood was used before the thirteenth century, when the quack, Jean De Gaddesden, brought it into renown.

It is easy to understand the comparative difference between the warm and the dry blood. In the first there is life with animal heat, and volatile principles, which conduce to assimilation. Notwithstanding, in the dry blood, fibrin, albumen, hæmatozin, manganatic, and ferruginous salts remain.

Between the seventeenth and eighteenth centuries the celebrated anatomist of that time (F. Buischio) found in the blood the necessary elements for the composition of every tissue of our body. At the end of the seventeenth century also was discovered one of the most important principles of the blood, that is, iron, by M. Lamey, and afterwards by Berzelius. According to Berzelius, a distinguished professor of chemistry, the blood of the ox is most similar to that of man; this, in fact, I have used in several cases of general weakness with anæmia, and in cases of chlorosis.

The blood of the ox, after being dried in a water-bath, is

reduced to a very fine powder, and grated through a sieve. Dry blood can be taken for any length of time, being almost tasteless, and no repugnance is likely to be felt, as is often the case with raw meat. It can be taken as any common powder, mixed with soups, milk, marmalade, chocolate, or enclosed in a wafer.

In two cases I have given the powdered blood under the name of nutritive powders, mixed with a small quantity of pepsine; choosing that name lest ladies, startled by one more precise, might have difficulty in taking the medicine.

The quantity to be taken may vary according to the age, sex, or the state of health and digestive power of the patient. In general, I begin with thirty grains, which is increased according to circumstances; but quantity must be left to the discretion of the physician who prescribes.—*Med. Press and Circular.*

Editors' Book Table.

[NOTE.—All works reviewed in the columns of the CHICAGO MEDICAL JOURNAL may be found in the extensive stock of W. B. KEEN, COOKE & CO., whose catalogue of Medical Books will be sent to any address upon request.]

BOOKS RECEIVED.

Illustrations of the Influence of the Mind upon the Body in Health and Disease. Designed to Elucidate the Action of the Imagination. By DANIEL HACK TUKE, M.D., M.R.C.P., etc., etc.

Mental Physic is but little treated of in the text-books, yet the great majority of the profession know well enough that embarrassment will make a diffident man sweat; that fear will make a coward soon pass a cathartic-like dejection; that "attention and emotional excitement" will bring on uterine pains in an oversympathetic female friend in attendance in the lying-in-room; that mental anxiety, or suspense, will induce a copious flow of pale urine, or decrease the usual amount of gastric juice. Any one proposing to cure disease, twenty years ago, by using mental means alone, would have been considered of very doubtful veracity. To-day many astonishing cures are accredited solely to mental influences.

The favorite explanation of the curative results of potencies

and attenuations, by unbelievers, is that all good is accomplished through the expectation, belief or "imagination" of the patient. Every physician acknowledges that his "success" is almost universally the best in those patients who manifest the most implicit faith in him. On such persons bread pills will act as cathartics, sudorifics, anodynes, or as any other remedy, provided the doctor announces such and such effects are to follow.

Mental influence over the body is an old, old subject. "The mind acts on the body and the body reacts on the mind," is an idea common enough, and it implies two classes of phenomena quite unlike. It is easy enough to persuade ourselves we understand how pathological conditions cause mental disturbance: Abnormal stimuli, malnutrition, imperfect circulation, deformities, and other causes, disturb the brain. But mental influences on the body cannot be so classed. Bodily conditions can be investigated by the microscope, by chemical re-agents, and the various means now taught by physiologists, but mental states cannot be touched, seen, or in any way investigated, except through their effects. Every function of the body has been exhaustively studied, and not a base or an acid in the whole body exists that has not been carefully investigated. Not so thoroughly, however, has the work been prosecuted in mental anatomy and physiology—in fact, this work is only in its infancy. In accounting for effects of pathological conditions on the mind we have something *tangible*, something *known* to work from; but in accounting for effects of mind on body we start from the unknown and possibly unknowable.

Dr. Tuke's idea, in writing this book, is to begin work in this uninvestigated field. It is the first work on this subject extant, and practicing physicians will be amply paid for reading it carefully through, and studying especially the chapter on psycho-therapeutics.

The plan of treating the subject adopted by the author, consists of considering the qualities, relations, and effects on the body of each of the three grand divisions of the mind, viz., the intellect, the emotions, and the will. The influence of each of the three divisions upon sensation, upon the voluntary muscles, (movements, spasms and convulsions, and loss of muscular power,) upon the involuntary muscles, and upon the organic functions, is discussed in separate chapters. Under each division are cited numerous

illustrations of great interest. The plan of considering the subject is so well laid out, that every instance of mind influence over the body can be easily classified. By far the most interesting portion of the book is the last chapter but one, on "psycho-therapeutics." Every word of it will be read with absorbing interest, and the only regret one experiences is that no more can be written of a practical character. The character, conduct and ability of the physician at the bedside, are considered highly important elements of success. Hope and confidence are powerful aids to the doctor in effecting curative results, and fear is capable of exercising marvelous therapeutic activity. Exciting the former, and sparingly or rarely employing the latter, are powerful forces for cure in the hands of a perspicacious man. Dr. Rush told us he never prescribed remedies of doubtful efficacy in the critical stage of acute diseases "until he had worked up his patients into a confidence, bordering upon certainty, of their probably good effects." The success of such proceeding oftener answered than disappointed his expectations. Dr. Tuke relates the following:—A very intelligent naval officer suffered violently, for many years, from cramp in the stomach. Anodynes had been exhausted one after another. Bismuth in largest doses had been used and "worn out." On one occasion when suffering severely from the after effects of some form of opium, he was informed that during the next attack he would be put under a medicine, generally believed to be most effective in such cases, although rarely used because of its dangerous qualities—provided he assented. The latter he quickly did. Accordingly, on the first attack after this, a powder containing four grains of powdered biscuit was given every seven minutes, while the gravest concern was manifested in his presence, lest too much be given. The fourth dose caused an entire cessation of pain. Thirty-grain doses of bismuth had never procured relief in less than three hours previously. More powerful than either hope or fear, as a curative agent, is the patient's will. Dr. Laycock asserts that the will can effect such changes in the brain as to arrest an attack of angina or epilepsy. Dr. Tuke quotes the interesting case of Crosse, the electrician, who was bitten by a cat that died the same day of hydrophobia. Three months subsequently he felt, one morning, great pain in his arm, accompanied by extreme thirst. Spasm seized his throat upon attempting to swallow water. It then

flashed upon his mind that he was a victim of hydrophobia. His agony of mind was indescribable while contemplating such a death. He concluded he must die. At length he began to reflect, and reflection aroused his will, and he determined he *would not* die. Accordingly he shouldered his gun and went out for the purpose of shooting, his arm aching intolerably the while. "*I walked,*" he says, "*the whole afternoon, exerting at every step a strong mental effort against the disease.*" When I returned to the house I was decidedly better; I was able to eat some dinner and drink water as usual." In three days the pain had left his arm. He recovered, wholly.

Mesmerism and Braidism are noticed at some length in closing this chapter. No one can determine whether the production of such artificial hypnotism will be used to any great extent to facilitate cures, but that it *is* capable of being so used, every reader of Dr. Tuke's book will concede.

Almost every physician neglects the systematic and scientific employment of physical aids in curing disease, and in so doing one means is thrown away, more powerful than all the agents in the materia medica. This means, empyrics use almost exclusively, and educated medical practitioners ought to divest it of unnecessary accompaniments with which the former envelop it, and incorporate it in the active agents daily employed. J. H. E.

Editorial.

To Abortionists,

Who occasionally favor us with their confidential communications, expressing their deep interest in "suffering womanhood," their sympathy with the "tender sex" in the "dangers of maternity," their anxiety to promote the "mental, physical and moral (!) well-being of humanity," with a great deal more of the same disgusting bosh, and finally, and most important of all, their entire willingness to aid, abet, or commit murder, *i. e.*, foeticide, by pastille, bougie, sound, syringe, or in whatever way may be most secret, safe and profitable!—we have to say, that we are now prepared to give their circulars a fitting reception, and to dispose of them in a manner

most conducive to the protection of womanhood and the promotion of the best interests of mankind. We shall therefore be happy to hear from any and all of these philanthropists! and to introduce their communications to the notice of the United States District Attorney, for indictment under the recent Act of Congress, prohibiting the transmission of obscene publications through the United States Mails.

The "Act" referred to is comprehensive in its scope, and specifies, as objects within its meaning, all statements having reference to the procuring of abortions, or to the *prevention of conception*.

The last communication of this kind, which we have received, is now in the hands of the United States District Attorney for the Northern District of Illinois, a gentleman thoroughly appreciative of the true legal and social relations of this crime and its perpetrators, entirely aware of the extent of his own power in regard to them, and determined to use it to its utmost limits to accomplish the eradication of the most pestilential evil of the day, an evil whose enormity and universality is known to few, although its unrecognized effects are patent to all in the wide-spread depreciation in female health in the so-called upper classes of society, in the alarming diminution in the birth-rate, and in the general social demoralization.

We have watched with intense interest for many years, the ineffectual attempts to suppress this crime, by the punishment of its perpetrators after the fact, and have been driven to the conviction that the extreme difficulty, indeed almost utter impossibility, of convicting offenders was due not so much to the absence of evidence as to the lack of appreciation by public sentiment (of which juries are supposed to be the exponents) of the true nature of the crime. Until the public mind is impressed with the truth that foeticide is *murder*—not manslaughter, but *murder*—we will look in vain for the conviction of its perpetrators by juries of any graver offenses than misdemeanors.

It is by the medical profession alone that this enlightenment of public sentiment must be inaugurated, and, with the co-operation of the secular press, be accomplished. The platform occupied by a majority of the clergy, at the present time, is too narrow and too insecure in its foundation to justify the expectation of very efficient aid from that quarter.

We recognize in the recent Act of Congress, a means which promises more than any other yet devised for the total eradication of this fashionable form of diabolism, as it strikes at its very source and origin rather than at its final consummation.

A noxious plant is not destroyed by the destruction of its fruit, but by cutting away its roots through which it derives its sustenance and support. If therefore, physicians, who have the interest not only of humanity but also of their own profession at heart, will be faithful and zealous in bringing to the notice of the proper authorities all publications of this character which may fall into their hands, they will not only aid most efficiently in protecting society at large from the greatest curse which now rests upon it, but will also remove from their own profession a foul excrescence which now deforms it.

W. H.

Cholera.

The efforts of some of our professional brethren, and of a large portion of the secular press, at the present time, to excite a cholera panic, suggest the propriety of quoting to them the oriental fable of "The Cholera Fiend," who, when accused by the pilgrim in the desert with having slain thirty thousand pilgrims, charged twenty thousand to account of fear, leaving only one-third of the mortality to his own account.

The past history of Asiatic cholera has demonstrated clearly that its progress is regular and its track well defined; it has never yet made its appearance anywhere by concealed approaches, and yet we are told that the disease rages in New Orleans, in Memphis, in Nashville, Louisville, and Cincinnati—developed spontaneously, perhaps. If this be so, it constitutes a "new departure" in the ætiology of the disease, and introduces a new element into its study.

Cases of disease presenting many of the characteristics of cholera occur yearly in most of our large cities, and almost every physician during some "heated term" sees a case which, "if cholera were prevailing, he should be disposed to call cholera."

The morbid influence prevailing just now in the cities south of us, and to some extent in this, seems to be very respectful of persons and places, selecting the filthiest individuals as its victims and the filthiest localities for its field of operation. Heat, unwholesome

food, and filth, are doubtless the efficient agents in the generation of the disease now prevailing, and these, neither singly nor combined, will generate cholera. The first factor is not within our control, the others are; and we are sure, that prudence in diet, in avoiding that which is positively unwholesome in food, and temperance in drink, with cleanliness of person and premises, will disarm the other factors of their efficiency as morbid agents. In this city there are numerous foci of disease in the many open privy vaults, left exposed since the fire, and now, under the combined influence of heat and a dry atmosphere, exhaling pestiferous gases far and wide. There are many of these in the heart of the business portion of the city, proclaiming their presence by unmistakable evidence, to even an utter stranger. The authorities cannot occupy themselves more beneficially, in the protection of public health, than to cause the disinfection of these receptacles and the removal of their contents at once. The danger from this source is much more imminent than from Asiatic cholera. W. H.

Rush Medical College Clinics.

A course of Clinical Lectures upon the Diseases of the Brain and Nervous System, will be commenced at Rush Medical College, corner of 18th and Arnold streets, on Saturday, August 2nd, at 3.30 P. M., and will be continued on every succeeding Saturday throughout the year, by Dr. Walter Hay, Adjunct Professor of Theory and Practice of Medicine and Lecturer on Diseases of the Brain and Nervous System in Rush Medical College.

The Practitioner.

As indicating the growing attention the subject of hygiene is receiving, not only from the public but from the medical profession, we are glad to see that *The Practitioner* (Macmillan & Co., London and New York,) is to be enlarged by the addition of a department devoted to Public Health. The forthcoming number will contain, under this head, articles on Sanitary Organization in England; the Health Aspects of Sewage Irrigation; the Propagation of Typhoid Fever by Milk; International Hygiene in relation to Plague and Cholera.

Zoot.

Dengue or Break-Bone Fever.

From the third of September till the twenty-ninth of November, 1872, I had occasion to treat one hundred and twenty-seven cases of Dengue Fever. Nearly all the cases were of a mild type; only two or three required treatment in the hospital. Before the fever made its appearance at this place, it had been very prevalent both at Matamoras, Mexico, and Brownsville, Texas, towns adjoining this post. None escaped it; old and young, natives and strangers, were alike attacked, as well as many old inhabitants who had escaped during former visitations. There were no deaths from the fever, either in the towns or the garrison. The type, as it appeared among the troops, was milder than that in the towns adjoining. This may be due in some measure to the mild treatment I used, and the more heroic treatment adopted by the civil physicians.

My plan of treatment was rest, low diet, hot foot baths when the fever was high, at bedtime small doses of a mixture of fluid extract of colchicum, antimonial wine, spirits nitre and nitrate of potash, repeated every six or eight hours till the colchicum began to affect the bowels. After this I gave no more medicine for a day or two, until the end of the period of fever, which lasted generally seventy-two hours; when I gave five to eight grains of quinine in solution three times a day, till the system was fully under the effects of the medicine. Average length of time for each case under treatment, 4.29 days.

I am fully convinced from observation and from personal experience, as my own was the first case of the fever in the garrison, that the Dengue is an indigenous yellow fever, running a course precisely similar to yellow fever (of which disease I had an attack about two years ago), the fever lasting forty-eight or seventy-two hours, with increased temperature in the evening, the period of calm of longer or shorter duration, terminating often in a profuse sweat, having a characteristic odor very similar to the transudations in yellow fever, followed by a period of convalescence which is generally short and rapid, but sometimes slow, and always attended with a good deal of pain in the bones. The symptoms and signs are the same as in yellow fever, only less marked: pain in the back of the neck and loins, congested eyes, but rarely ferrety as in yellow fever, tongue velvety, with red tip and edges, the attack coming on suddenly, in almost every case in the midst of the most robust health. The disease spreads by the action of fomites, like yellow fever, and is not contagious.

I had no opportunity to test the axillary temperature, for the reason that my thermometer got broken in transportation; but in no case was the skin very hot, so far as could be judged by applying the hand to the surface. Thirst was not very troublesome; after the fever there was great indisposition to sleep for several nights, in some cases requiring an anodyne at bedtime.—*W. E. Whitehead, M.D., U.S.A., in Pacific M. & S. Journal.*

Cod Liver Oil and Lacto-Phosphate of Lime.

This remedy is being quite extensively prescribed by physicians, and as considerable inquiry has been made as to an eligible mode of prescribing it, I will give my experience in the manufacture of the article, and also a simple process for making syrup of lacto-phosphate of lime.

For a long time I have had demand for a tasteless cod liver oil, and have been in the habit of preparing it in the form of an emulsion with gum arabic and water, and covering the odor with a few drops of essential oil of bitter almonds.

Over a year ago I found physicians were prescribing cod liver oil and lacto-phosphate of lime, and I devised a formula for it, based on my experience with the simple emulsion and the syrup of lacto-phosphate of lime, for which a considerable demand had sprung up. The formula I then devised has been followed by me up to the present time, and has invariably given satisfaction, and produces an article which does not separate or become rancid.

I think, however, it should be prepared extemporaneously as prescribed by physicians, and I have not kept it on hand, but prepare it as wanted, thus always giving a perfectly sweet article.

Take of gum arabic, oz.ij dr.ij; water, f oz.ij; syrup lacto-phosphate of lime, f oz.vi; cod liver oil, f oz.viij; essential oil bitter almonds, six drops; rub the gum, water and syrup together, until a smooth mucilage is made, then add the oil gradually with constant stirring, and, lastly, the oil of bitter almonds.

Thus made, each table-spoonful of cod liver oil and lacto-phosphate of lime contains four grains lacto-phosphate of lime and fifty per cent. of cod liver oil. The gum in the above should be selected, ground and passed through a sieve of sixty meshes to the inch. Cod liver oil and lacto-phosphate of lime prepared in this manner, forms a preparation free from unpleasant taste and odor, and enables the practitioner to administer these valuable remedies without repugnance on the part of the patient.

Syrup Lacto-phosphate of Lime.—Take of chloride of calcium, oz.i; phosphate of soda, oz.iv; concentrated lactic acid, oz.i; dissolve the chloride of calcium and phosphate of soda separately, and mix the solutions; wash the precipitate and dissolve in the acid. Filter and mix with sufficient syrup to make two and one-half pints.—*Edward Chiles, in American Journal of Pharmacy.*

Treatment of Nervous Aphonia and Chronic Pharyngitis.

Dr. Mandl, in his "Traite Pratique des Maladies du Larynx et du Pharynx," quoted in the *Dublin Journal of Medical Science*, April, 1873, notes as an important clinical fact, that an essential nervous aphonia, viz., bilateral dynamic paralysis of the tensors of the vocal cords (crico-thyroideans) may perhaps be in young girls the precursor of a tubercular inflammation which declares itself later. The return of the voice on the application of electricity is not an absolute security. It is in such cases especially that it is necessary to abstain, according to Trousseau, from the employment of ferruginous preparations, which determine a sanguineous plethora by no means devoid of serious inconveniences in individuals predisposed to hæmoptysis and to tubercularization.

For a long time Dr. Mandl also has prescribed the use of iron in chronic laryngitis and pharyngitis, as the plethora consecutive to its administration turns into a local hyperæmia; consequently, chronic phlegmasias are more often kept up by it than amended.

That particularly troublesome complaint, known as granular (follicular) pharyngitis, or clergymen's sore-throat—generally chronic in its nature, and, though often temporarily relieved, apt to relapse—Dr. Mandl has succeeded in curing, by painting the granulations twice a day, with a solution composed of one part of metallic iodine and one of carbolic acid, dissolved, by means of iodide of potassium, in one hundred parts of glycerine. If irritation supervene, the application is less frequently applied, or superseded for a time. The largest granulations are first scarified, and then touched with the glycerole, but in a more concentrated form, and in variable proportions, according to the degree of the affection. This local treatment alone is, he believes, sufficient to radically cure the disease, independently of any supposed diathesis. Dr. Mandl may probably have been led to adopt this mode of treatment from Dr. Hastings, who recommended the application to the "mucous crypts which had previously resisted the remedial effects of nitrate of silver," of a "saturated solution of iodine in rectified spirit."

Why Insanity Increases.

Sir James Coxe, Commissioner of Lunacy for Scotland, in discussing this subject, strikes at the root of this and many another evil of our civilized life, when he says in his last address:—

"Communities should be trained in a knowledge of the human organism, and of the laws which determine its welfare. Ignorance of such knowledge has an all-pervading influence. It affects the proceedings of the legislature, of the clergy, and of teachers, and through their instrumentality the conduct and behavior of the

whole community. In the first place, the complex nature of the human mind is overlooked; education is too much restricted to the cultivation of the intellectual faculties, and even their training is, as a rule, only partial and imperfect. In the second place, moral training may be said to be almost entirely neglected; and the same remark is applicable to physical training.

"The neglect of physical training is almost universal, and even where it is attempted, it is calculated to do, perhaps, more harm than good.

"My doctrine then is, gentlemen, that insanity, so far from being a disease of civilization, is a disease of ignorance, and that the only way in which its extension may be checked is by imparting to every man a knowledge of the structure of his own body, and of the relations in which he stands to the moral and physical world around him."

This is sound doctrine, and we commend it to the thoughtful consideration of that class of physicians who fancy any physiological instruction furnished the public is *margarita ante porcos*.—*Philadelphia Reporter*.

A Physician's Diary of Business.

A pocket diary has been picked up in the street, and now is in the finder's possession, awaiting its owner. From the following extracts, it appears the loser was a medical man:

"Kase 230. Mary An Perkins. Bisnes, washwoman. Sickness in her hed. Fisik sum blue pils a soaperifik; age 52. Ped me one dollar, 1 kwarter bogus. Mind get good kwarter and mak her tak mo fisik.

"Kase 231. Tummes Krinks, Bisnes, Nirishman. Lives with Pady Molouny whot keeps a dray—Sickness, digg in ribs and tow blak eys. Fisik to drink my mixer twict a day of sasiperily bere and jellop, and fish ile, with asifidety to make it taste fisiky. Rubed his face with kart grese liniment, aged 39 years of age. Drinked the mixer and wuddnt pay me bekase it tasted nasty, but the mixer'll work his innards, I reckon.

"Kase 232. Old Misses Boggs. Aint got no bisnes, but plenty of money. Siknes awl a humbug. Gav her sum of my celebrated "Dipseflorikon," which she sed drank like cold tee—wich it was too. Must put sumthink in it to mak her feel sik and bad. The Old Wommen has got the roks."

DeWitt County Medical Society.

The DeWitt County Medical Society met in annual session on the 29th day of April, 1873.

Members present—Drs. J. H. Potter, T. W. Davis, John H. Tyler, John Wright, Z. H. Madden, Thomas K. Edmiston, and Christopher Goodbrake.

Also present—Dr. J. J. Starkey, of Waynesville, and Dr. W. H. Crothers, of Maroa, Macon county.

Dr. Potter, President, in the chair.

The minutes of the last meeting were read and approved.

On motion of Dr. J. Wright, Dr. W. H. Crothers was elected an honorary member of the society.

Dr. Wright proposed Dr. J. J. Starkey for membership, and the Censors having reported favorably on his case, he was, on motion of Dr. Goodbrake, elected a member of the society.

The election of officers being in order, the following gentlemen were elected for the ensuing year: President—Dr. J. H. Tyler, DeWitt; Vice-President—Dr. T. W. Davis, Wapella; Secretary—Dr. C. Goodbrake, Clinton; Treasurer—Dr. Z. H. Madden, Clinton. Censors—Dr. W. G. Cochran, Farmer City; Dr. J. H. Potter, Wapella; Dr. J. J. Starkey, Waynesville.

Dr. Tyler, on taking the chair, delivered a short address, which was well received by the members present.

Dr. Thomas W. Davis reported the case of a gentleman in whom very strange symptoms had occurred from the administration of an enema, consisting of a tablespoonful of common table salt in solution.

Dr. Tyler reported three very interesting cases of *cerebro-spinal meningitis*.

Diseases of the Liver was chosen as the subject for discussion at the next meeting.

The essayists having failed to perform their duties, they were, by order of the President, continued.

On motion of Dr. Goodbrake, the following resolution was unanimously adopted:

Resolved, That the thanks of the society are due and are hereby tendered to the editors of the *Clinton Public* and *Clinton Register* for kindly publishing notices of meetings of this society.

On motion of Dr. Wright, the thanks of the society were tendered to the proprietors of DeWitt Hall for inviting the society to meet in their splendid room without any pecuniary remuneration.

On motion, the Secretary was ordered to furnish copies of the proceedings of this meeting for publication in the Chicago medical journals, our county papers, and the *Maroa News*.

On motion of Dr. Madden, the society adjourned to meet in quarterly session in Clinton, on the first Tuesday of July next.

C. GOODBRAKE, M.D., Sec.